



## Foreword

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The Environmental Protection Department (EPD) is responsible for protecting Hong Kong's environment, a role that is becoming increasingly complex. The nature of our job means that, on one hand, we must be constantly reaching out to the local community and national, regional and international bodies, to engage their input and support for a healthier environment. On the other hand, we must also keep an ever-closer watch on our own impacts to ensure we practice what we preach. This report reflects our efforts to fulfil these external and internal demands.

In 2003, we continued to look for ways to reduce our own impacts on the environment. The EPD is responsible for managing landfills, refuse transfer stations and the Chemical Waste Treatment Centre, as well as laboratories and offices. We cannot avoid having some environmental impacts, but our goal is to minimise these and ensure we meet and, wherever possible exceed, the statutory requirements.

In terms of office-related impacts, we have achieved good reductions in paper consumption, which is 11.2 per cent lower than that in 1998, and we are continuing with efforts to reduce energy consumption. We face challenges ahead in making further reductions, but we will continue to explore innovative ways of reducing our impacts on the environment.

Apart from managing our impacts, we also continued to expand our partnership programmes with various industries, encourage greater public consultation and fortify our links with local, national, regional and international bodies. These efforts reflect our commitment to ensure sustainability is a shared responsibility – one of the key messages of sustainable development.

On that note, I would like to invite readers to provide feedback on our performance and on this report. Our stakeholders are a broad group, encompassing numerous industries, businessmen, politicians, green groups, community groups, academics and the general public. We need your input to help us improve. A [feedback form](#) is provided at the end of this report or you can e-mail us at <[enquiry@epd.gov.hk](mailto:enquiry@epd.gov.hk)>.

**R.J.S. Law, JP**  
Director of Environmental Protection



# 1 Environmental Policy

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## Vision

Our vision is of a Hong Kong which enjoys an environment that is both healthy and pleasant, in which the community places a premium on sustaining such an environment for both themselves and future generations.

To realise this vision, we will continue to strengthen our ability to meet environmental sustainability goals. We will formulate and implement programmes to improve and safeguard the environment while contributing proactively to strategic decision-making in the government that will have an impact on the environment. We are committed to ensuring that all services and programmes offered by the Environmental Protection Department (EPD), as well as our own internal operations, are developed and conducted in an environmentally responsible manner.

In pursuance of these goals, the EPD has adopted the following principles:

## Compliance

We aim to establish an effective legislative and an efficient control framework to safeguard the health and welfare of the community from any adverse environmental effects.

We will seek to provide moral leadership by not only complying with the letter of the law, but the spirit of all applicable environmental legislation, standards and regulations, as well as our internal guidelines and procedures, in all our operations within the EPD. We will endeavour to surpass them whenever possible.

## Pollution Prevention

We aim to pre-empt environmental problems associated with development projects, plans and policies by applying environmental impact assessment in the planning process and seeking opportunities to improve the environmental quality of Hong Kong.

We will implement ISO14001 environmental management systems to improve continually the environmental performance of our major facilities. We will avoid, reduce and control environmental pollution arising from our day-to-day working practices. We will require our contractors to adopt and implement sound environmental management systems and pollution control measures, and actively encourage businesses and other organisations in Hong Kong to adopt similar systems and measures.

## Response to Environmental Incidents

We will implement an emergency response system for handling environmental incidents, and will be prepared to respond quickly to minimise the damage to the environment.

## Minimisation of Consumption

We aim to plan and provide convenient and cost-effective waste management facilities, as well as promote a sustainable approach to waste management in Hong Kong, in which we consume less, produce less waste, and reuse or recover value from waste.

We will exercise the principles of Reduce, Reuse and Recycle in the consumption of materials and seek continual improvement in the efficient use of natural resources and energy in all our operations.

## Sustainable Development

We will actively contribute to government-wide policies and programmes that support sound environmental management and sustainable development. We will use and promote evolving scientific and technological systems, work with others and continue to build new partnerships in the pursuance of

sustainable development objectives.

### **Communication**

We aim to promote community awareness, through environmental campaigns, publicity, education and action programmes, and public access to environmental information, with a view to harnessing the community's support for, and contribution to, achieving the desired environmental goals.

We will also publicise to the community our Environmental Policy and report annually on our environmental performance. We will ensure that all our staff are aware of our Environmental Policy, that they will be able to provide detailed information about our Policy and initiatives to stakeholders in their particular areas of concern.

### **Training**

We will ensure through appropriate training and professional development, that every member of our staff has the knowledge and competency to assume his/her environmental responsibilities and to participate constructively in environmental activities.

### **Management Review**

The Management will review this policy and the department's environmental objectives and targets vis-a-vis the changing internal and external factors, and seek continual improvement in our environmental performance.



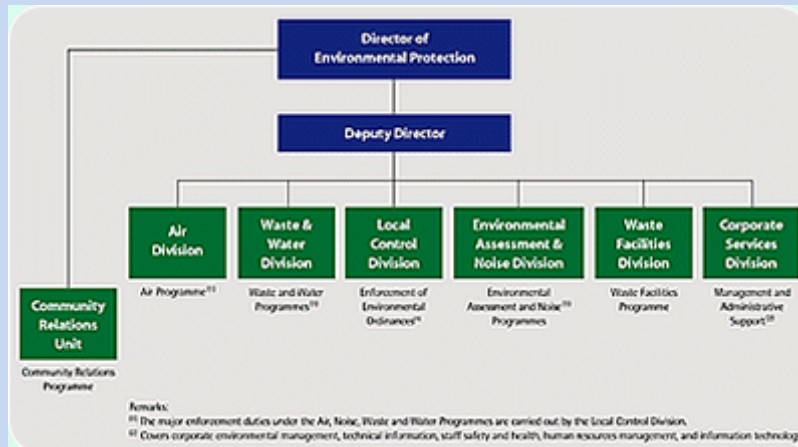
## 2 Organisation, Programmes and Responsibilities

Within Government, the Environment, Transport and Works Bureau has overall policy responsibility for the environment, while the Environmental Protection Department (EPD) implements environmental plans and legislation as well as advises on policy and new initiatives. The EPD was established on 1 April 1986, with staff and resources from six government departments and the aim of bringing the majority of pollution prevention and control activities under one organisation.

The department's responsibilities include implementing environmental policy and plans; promoting community environmental awareness; enforcing environmental legislation; monitoring environmental quality; providing collection, transfer, treatment and disposal facilities for many types of waste; advising on the environmental implications of town planning and new policies; and handling pollution complaints and incidents. These responsibilities are organised under seven programme areas (see below).

In 2003, out of a departmental expenditure of \$2.291 billion, 50 per cent was for contract payments for the treatment and disposal of municipal and chemical wastes, 33.3 per cent was for staff costs relating to our programme areas, 10.2 per cent was for capital expenditure and 6.5 per cent was for general operating expenses.

Organisation Chart of the Environmental Protection Department



The department had an establishment of about 1 653 staff in 2003. About 28 per cent are professionals, about 45 per cent are technical-grade staff and the remaining 27 per cent are administrative and support staff.

Apart from the EPD, other government departments are also responsible for environmental initiatives that are related to their areas of responsibility. For example, the Electrical and Mechanical Services Department is responsible for energy efficiency, while the Agriculture, Fisheries and Conservation Department is responsible for nature conservation.

Our aims and objectives under each of our programme areas are as follows:

**Our Vision is of a Hong Kong which enjoys an environment that is both healthy and pleasant, in which the community places a premium on sustaining such an environment both for themselves and for future generations.**

**Our mission is to make our contribution towards realising this vision by applying our professional knowledge and judgement and drawing on our experience in the environmental field**

- to formulate and implement plans to improve and safeguard the environment;
- to increase community awareness of environmental issues;
- to implement environmental protection legislation;
- to participate in the town planning process;

**with a view to achieving and maintaining a high standard of environmental quality.**

## **Air Programme**

Achieve and maintain satisfactory air quality through intervention in the planning process.  
Participate in the risk management of potentially hazardous installations and in matters related to energy and global warming.  
Enforce the Air Pollution Control and Ozone Layer Protection Ordinances.  
Enforce the Road Traffic Ordinance against smoky vehicles.

## **Community Relations Programme**

Promote community awareness through environmental campaigns, publicity, education and action programmes.  
Build the capacity of stakeholders with the aim of enhancing environmental awareness in the community.

## **Environmental Assessment and Planning Programme**

Pre-empt environmental problems associated with projects, plans, policies and strategies by assessing their environmental impacts and implementing preventive and mitigatory measures where potential problems are identified.  
Strive for the best possible environmental performance in both the public and private sectors.  
Enforce the Environmental Impact Assessment Ordinance.

## **Noise Programme**

Prevent, minimise and resolve noise problems through intervention in the planning process, implementation of noise abatement measures and enforcement of the Noise Control Ordinance.

## **Waste Programme**

Establish a framework of legislative and institutional controls to safeguard the health and welfare of the community from the adverse environmental effects associated with the improper handling and disposal of waste.  
Enforce the Waste Disposal and Dumping at Sea Ordinances.

## **Waste Facilities Programme**

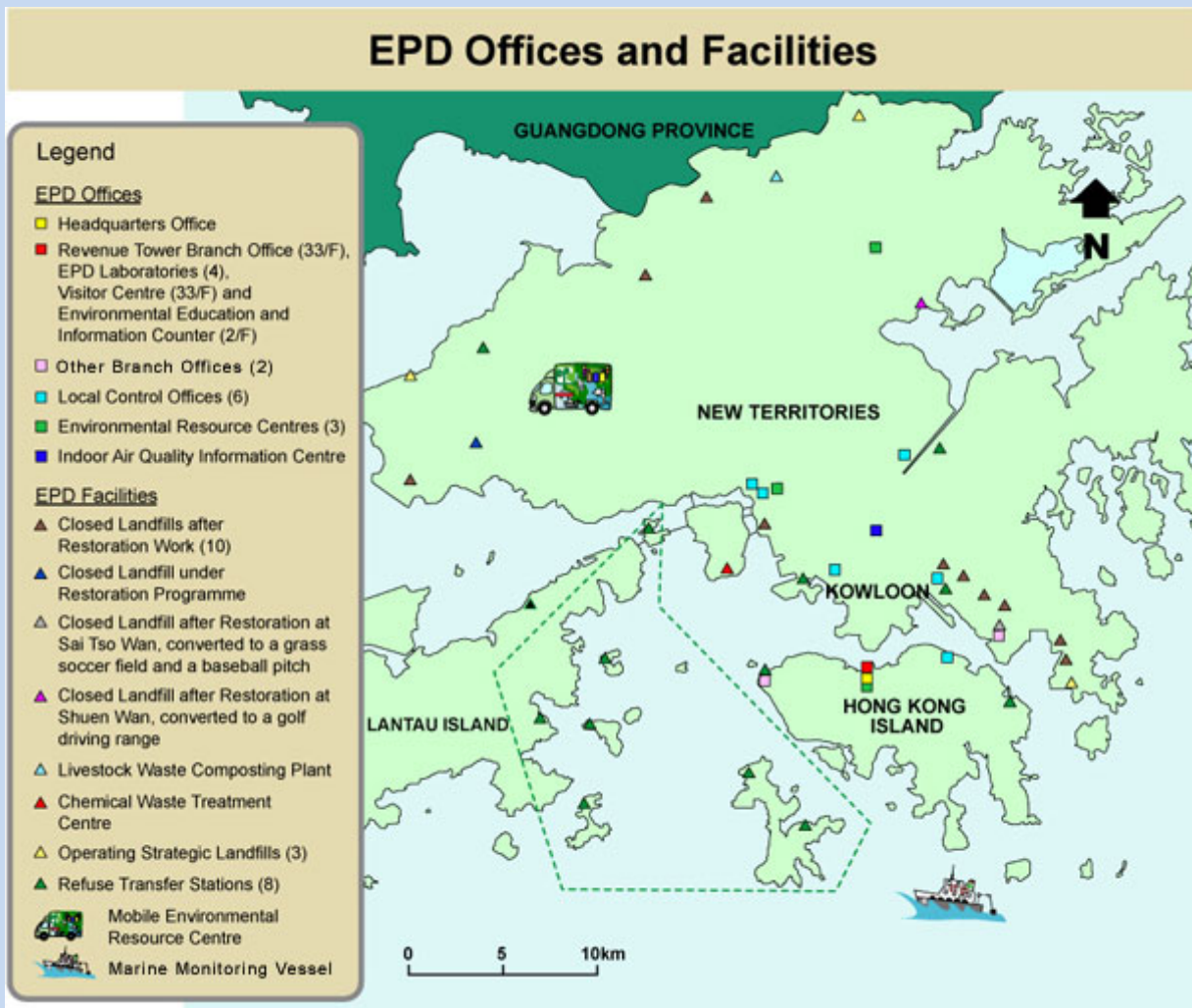
Develop plans and programmes for the minimisation of waste.  
Provide facilities for managing any residual waste in a cost-effective and environmentally acceptable manner.  
Coordinate and manage the implementation of plans and programmes relating to waste minimisation and waste facilities.

## **Water Programme**

Develop plans and programmes to ensure the quality of inland and marine waters meets with our conservation goals.  
Formulate plans for sewerage, sewage treatment and disposal facilities and monitor their implementation to meet development needs and environmental standards.  
Enforce the Water Pollution Control Ordinance.



### 3 EPD Offices and Facilities



Chemical Waste Treatment Centre, Tsing Yi.



Island West Transfer Station.



**Sha Ling Livestock Waste Composting Plant.**



**Restored Sai Tso Wan Landfill.**



**South East New Territories Landfill.**



**Fanling Environmental Resource Centre.**



**Customer Service Centre at 10/F Shatin Government Offices.**



**Local Control Office (Territory East).**



**Headquarter Reception Counter at 28/F Southern Centre.**



**EIAO Registration Office at 27/F Southern Centre.**



**Tung Chung Air Quality Monitoring Station.**



**Marine Monitoring Vessel.**



## 4 Our Influence and Impact on the Environment

### The Department's contribution towards improving the environment

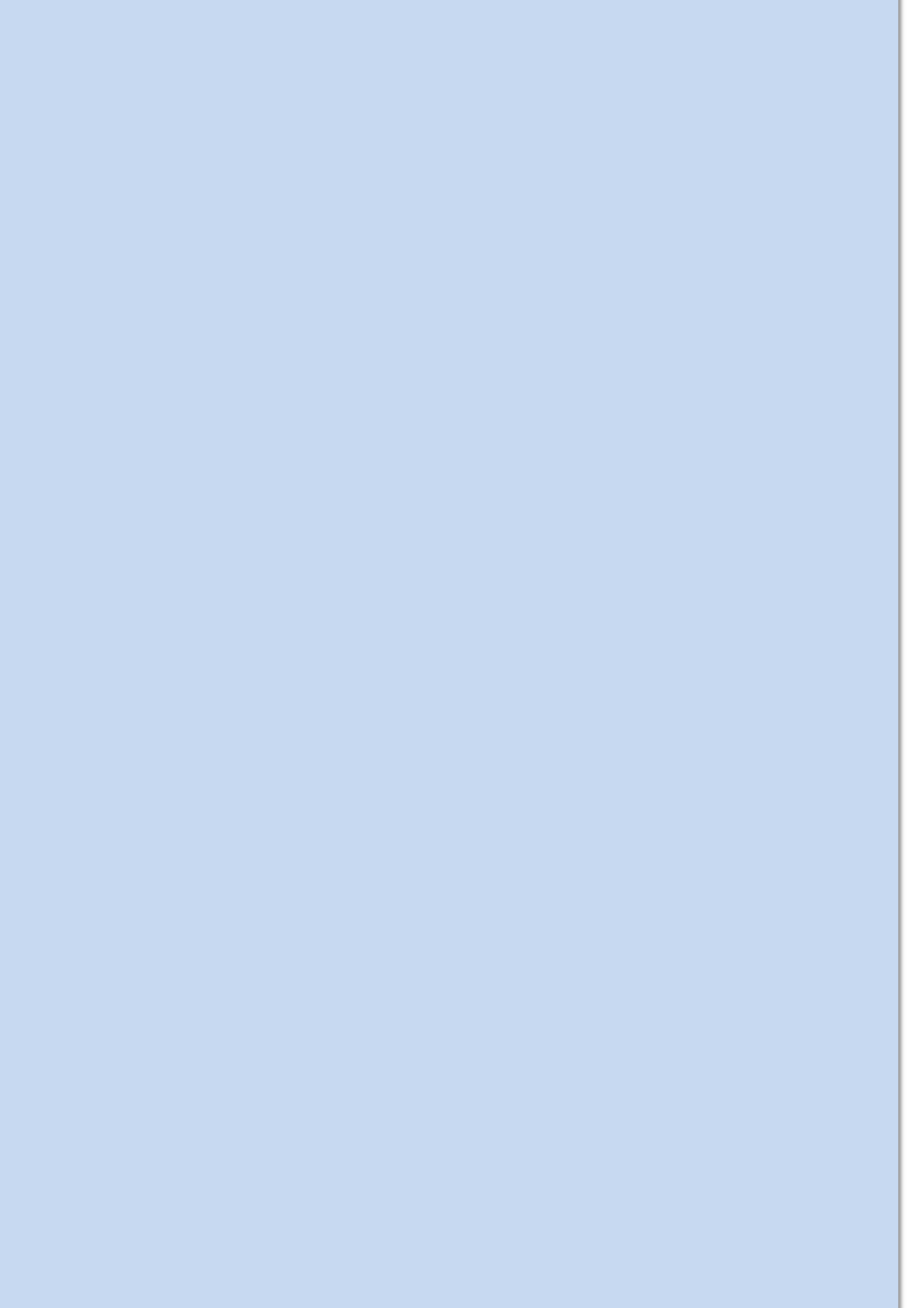
Main Activities	Environmental Results
Contribute to the formulation of major policies and plans within the Government	Environmental impact of policies, strategies and planning proposals minimised  Sustainability incorporated in decision-making process
Develop and implement environmental improvement programmes	Direct improvements in:  Air quality Noise mitigation Water quality Waste management
Plan and provide waste management facilities	Waste handled and disposed of in an environmentally responsible manner
Establish regulatory control framework and enforce environmental ordinances	Air, water, waste and noise impacts from polluting activities reduced
Build partnerships and engage stakeholders	Better co-operation gained from all sectors in improving the environment
Deliver environmental education programmes to promote environmental awareness and public participation	Increased awareness about preventing and tackling environmental problems through enhanced partnerships and capacity building with stakeholders
Support research and professionalism in the environmental disciplines	Professional contribution to environmental management in Hong Kong enhanced

### Environmental impacts of our operations

Operations and Services	Effects and Environmental Impact		Measures Taken to Contain the Impact
Waste Collection, Transfer and Disposal Services	Discharge of wastewater and leachate	Pollution of receiving water bodies	Waste management facilities are equipped with wastewater treatment systems to ensure discharge complies with water quality standards.

	Emission of landfill gas	Potential fire and other hazards to human life	Operating and closed landfills are equipped with landfill gas management and monitoring systems to remove potential hazards and risks within and to the adjacent areas.
	Environmental nuisance	Noise, odour and visual impact	Noise and odour nuisances are regularly monitored to ensure compliance with internal and statutory standards. Visual impact is assessed during the development stage of facilities. Mitigation measures such as visual barriers are provided where appropriate.
	Exhaust emission from on-site treatment facilities, vehicles and vessel fleets	Air pollution and contribution to greenhouse gas emissions	Exhaust emissions from facilities are regularly monitored. A network of transfer facilities is used to reduce round-trips of vehicles. Bulk marine transfer, which can help reduce traffic emissions, is adopted where appropriate.
	Consumption of fuel and electricity	Air pollution and contribution to greenhouse gas emissions	At closed and operating landfills, landfill gas is utilised to substitute fossil fuel for electricity/ heat generation.
Laboratory Services	Exhaust emission from fume cupboards and safety cabinets	Air pollution impact	Emissions are scrubbed or filtered before release to the atmosphere. Regular monitoring for compliance with required standards.
	Wastewater discharge	Pollution of receiving water bodies	Provision of buffer tanks to prevent accidental discharge of unsuitable substances into the sewers. Regular monitoring of discharges from sinks for compliance with required standards

	Accidental chemical spillage	Potential hazards to human life	Staff are trained to deal with accidental spills. All laboratories are provided with emergency spill kits and procedures for handling chemical spillage/leakage.
	Generation of chemical and biological wastes	Residual pollution from waste treatment processes	Chemical waste is properly treated and disposed of by the Chemical Waste Treatment Centre, and biological waste is disinfected and disposed of in accordance with WHO guidelines.
Field Work	Fuel consumption and emissions from vehicles/vessels	Air pollution and contribution to greenhouse gas emissions	Use vehicles that run on petrol or LPG and implement a non-idling policy. Groups and offices combine trips whenever possible.
	Use of chemicals	Contamination of soil and water bodies	Only non-toxic dye is used to trace pollution sources.
	Disposal of samples	Residual pollution from waste treatment processes	Used samples are returned to laboratories for proper disposal.
Office Activities	Consumption of energy and resources (electricity, paper, water, stationery, etc.)	Air pollution and contribution to greenhouse gas emissions Depletion of resources	Reduce paper consumption on average 2.5% per year for the next 4 years. Encourage documents sharing rather than photocopying, and use electronic means for the department's library catalogue system, and for submission and approval for all requests for purchase of computers and related items. Reduce electricity consumption by 1.5% per year from 2003/04 to 2006/07.
	Generation of solid waste	Increased demand for landfill disposal	Implement waste reduction and recycling programmes.





## 5 Our Contribution to the Environment

### 5.1 Our Contribution to Strategic Decision-Making

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The EPD provides input on the environment and sustainable development through several channels, working with both stakeholders and other government departments.

#### Input on Major Policies and Strategies

The department contributes environmental information to the Sustainability Development Unit, which was set up in 2001 to broadly assess the impacts of strategic developments and policies and guide Hong Kong's future development. In 2003 a CD-ROM was produced based on the results of an earlier conference on environmental assessment tools for sustainability.

The EPD also manages strategic environmental assessments (SEAs), which are more detailed reports on environmental implications for individual policies and strategies. In 2002 the department started putting SEAs on its website. This is not a legal requirement, but meant to demonstrate that SEAs can be produced and can be useful tools in strategic planning. Hong Kong is a leader in the field and in 2003, the department presented the first draft of its SEA Manual to the International Association of Impact Assessment for comment. Consultations have also been held with colleagues in Hong Kong.

In addition, the EPD reviews the environmental implications paragraphs that are contained in all policies submitted to the Policy Committee of the Executive Council and all submissions made to the Public Works Sub-Committee of the Legislative Council, which approves funding for public works projects. In 2003 the department reviewed 174 submissions.

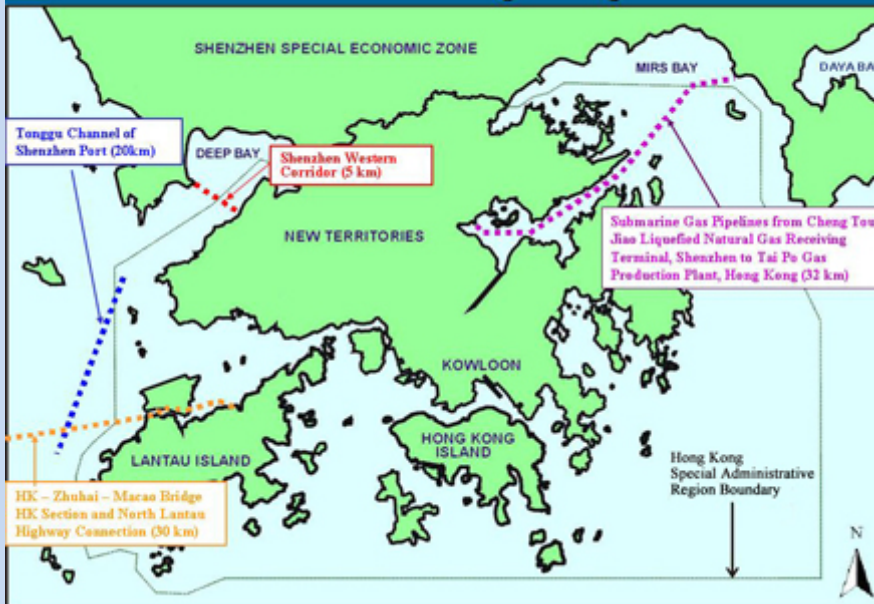
#### Regional Collaboration

The EPD was given approval to liaise directly with the State Environmental Protection Administration on environmental impact assessment (EIA) matters in 2003. The Mainland introduced a new law on EIAs and SEAs in September 2003. Hong Kong also continued to carry out visits and preparation work with the State Oceanic Administration for participation in the National Marine Environmental Monitoring Network.

The Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection continued to address cross-boundary issues. In 2003 the two sides drew up an action plan to protect the clean waters of Mirs Bay and prepared an air quality management plan for the Pearl River Delta Region. The EPD also participated in a symposium on sustainable development in Guangdong, Hong Kong and Macau.

**We will contribute actively to government-wide policies and programmes that support sound environmental management and sustainable development, and we will advise the government on the environmental impacts of strategic development proposals.**

## Cross-boundary Projects



Environmental assessments of the growing number of cross-boundary projects continued in 2003.

### Improving Environmental Performance

All government departments and bureaux have been required to publish their annual environmental performance reports (EPRs) since 2000. The EPD has provided assistance through training programmes and a helpdesk. In January 2003, [A Benchmarking Tool for Environmental Performance Reports](#)



**A Benchmarking Tool for Environmental Performance Reports.**

was disseminated to 120 officials from about 80 bureaux and departments at a seminar. The benchmarking tool provides clear guidelines and explanations on producing reports that can be used to help improve environmental performance. The government EPRs are also intended to serve as a good example to the private sector, in our efforts to encourage more reporting there.



120 officials from about 80 bureaux and departments attend a seminar on environmental reporting.



**Speakers at the seminar.**

All arms of government are also required to make progressive reductions in paper consumption, under a directive issued by the Environment, Transport and Works Bureau in 2003. The Bureau and EPD organised a joint seminar in December 2003 where 170 officials from about 70 bureaux and departments shared views and experiences in paper saving and other green office measures.



**170 officials from about 70 bureaux and departments share views and experiences on paper saving and other green office measures.**



## 5 Our Contribution to the Environment

### 5.2 Planning for a Better Environment

- 5.2a Prevention and Mitigation through Environmental Impact Assessment
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#### 5.2a Prevention and Mitigation through Environmental Impact Assessment

The EPD seeks to influence the development of projects at the earliest stage to protect people and the environment from adverse impacts. It also aims to engage stakeholders and the public so they can share their views and gain access to information about specific projects.

##### Environmental Impact Assessment (EIA) Ordinance

The EIA Ordinance was enacted in 1998 to avoid and mitigate against undesirable impacts from projects before they are built. In 2003, projects with a combined worth of more than HK\$91 billion met the EIA Ordinance requirements and were approved. This included several major EIA studies such as those on cross-boundary submarine gas pipelines from Shenzhen to Tai Po, the Tung Chung-Ngong Ping Cable Car and the Joint User Complex & Wholesale Fish Market in Tuen Mun. It also included Environmental Permits issued for the Shenzhen Western Corridor, Deep Bay Link and Gas Turbine at Tsing Yi Power Station. Work also started during the year on such major EIA studies as the Hong Kong-Zhuhai-Macao Bridge Hong Kong Section & North Lantau Highway connection, Recovery Park and KCRC Shatin to Central Link.

Since implementation of the EIA Ordinance, the impact avoidance or control measures in the approved applications have protected 1.9 million people and various aspects of the environment along and in the vicinity of railway lines, road alignments, reclamation sites, and other developments. With respect to ecological compensation, some key measures have been implemented, such as 6.5 ha of grasscrete, 3 ha of marshcrete, 13.5 ha of reinstated fishponds and 12 ha of recreated wetland. In 2003, the EPD managed 154 environmental and monitoring audit programmes with a view to avoiding unacceptable impacts caused by the construction and operation of major projects.

Apart from assessing local projects, the EIA process is also applied to the growing number of cross-boundary projects (see 5.1 Our Contribution to Strategic Decision-Making for details).

**We aim to pre-empt environmental problems associated with projects, plans and policies by assessing their environmental implications and implementing preventive and mitigatory measures where potential problems are identified.**

## Public Involvement

The public has access to EIAs and environmental monitoring and audit data through the EPD website. Under the EIA Ordinance, people may give their views at the project profile stage and during the public exhibition of the EIA report. However, a number of planning and design activities precede these reports. The EPD therefore is promoting continuous public involvement (CPI) to go beyond the current requirements and allow public input at an earlier stage.

The need for CPI became apparent after the EIA for the Lok Ma Chau spurline was rejected in 2000, prompting the project proponent to go back to the drawing board. In September 2003 the Environment, Transport and Works Bureau included CPI in its technical circular, *Guidelines and Procedures for Environmental Impact Assessment of Government Projects and Proposals*. The EPD is also promoting CPI during training sessions with government officers and the private sector.

## Links with Stakeholders

The EPD maintains links with a number of stakeholders, with the aim of improving the EIA process. Training and capacity-building is a major focus of these links. An EIAO Support Section was set up in July 2002 to help enhance understanding of the EIA process among government works departments. This goal was extended to the private sector in 2003. By the end of 2003, 23 workshops on the EIA process had been held for 550 participants, including tailor-made workshops for works departments. The EIA Helpdesk Hotline was expanded to offer assistance to the private sector, as well as government departments. A *Training Manual for the EIA Mechanism* was also produced during the year for practitioners in both the public and private sectors.



**An EIA helpdesk hotline is established to answer enquiries from government staff, consultants, contractors and the public.**

The EPD also meets regularly with stakeholders to share experiences and discuss how the EIA process can be improved. Four User Liaison Groups were set up in 2000 for government works departments, consultants, contractors, and private developers and public corporations, and eight meetings were held with these groups in 2003.



## 5 Our Contribution to the Environment

### 5.2 Planning for a Better Environment

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**We aim to achieve and maintain satisfactory air quality through intervention in the planning process and enforcement of the Air Pollution Control Ordinance, Ozone Layer Protection Ordinance and other statutory requirements.**

#### 5.2b Better Air Quality

The EPD runs a network of monitoring stations to monitor the air quality in Hong Kong. To tackle the main source of local street level pollution, it has implemented programmes to reduce motor vehicle emissions. The EPD is also working closely with relevant Guangdong authorities to address the growing problem of regional air pollution.

#### Monitoring

The EPD operates 14 fixed air quality monitoring stations, three of which are near roadsides. The remaining 11 are general ambient stations. Roadside air quality has shown continuous improvement as a result of a \$1.4 billion programme announced in 1999 to reduce emissions from motor vehicles. Between 1999 and the end of 2003, the levels of respirable suspended particulates and nitrogen oxides at roadsides dropped by 13% and 23% respectively. In terms of ambient air concentrations, the level of nitrogen oxides dropped by 11% while that of respirable suspended particulates increased by 4% compared with 1999. This reflects a deterioration in regional air quality.

Table A sets out the status of various monitoring stations in compliance with long-term Air Quality Objectives for major air pollutants in 2003.

Table A : Compliance Status of Long-term (1-year and 3-month averages) Air Quality Objectives (AQO) in 2003						
Station		Sulphur Dioxide	Nitrogen Dioxide	Total Suspended Particulates	Respirable Suspended Particulates	Lead
		1-year	1-year	1-year	1-year	3-month
General Station	Central/Western	•	•	•	•	•
	Eastern	•	•	--	•	--
	Kwai Chung	•	•	•	x	--
	Kwun Tong	•	•	•	•	•
	Sham Shui Po	•	•	•	•	~
	Tsuen Wan	~	~	~	~	~
	Sha Tin	•	•	•	•	--
	Tai Po	•	•	•	•	--
	Tung Chung	•	•	•	•	•
	Yuen Long	•	•	x	x	•

	Tap Mun	•	•	--	•	--
Roadside Station	Causeway Bay	•	x	--	x	--
	Central	•	x	--	x	--
	Mong Kok	•	x	x	x	•

Notes:	"•"	Complied with the AQO
	"x"	Violated the AQO
	"--"	Not measured
	"~"	Data are below the minimum requirement for compliance assessment

Non-compliance with short-term Air Quality Objectives can best be represented by the frequency at which the Air Pollution Index exceeds 100. In 2003, the Air Pollution Index exceeded the 100 mark 1 438 times, a drop of 22% over 1999.

### Motor Vehicle Pollution

The EPD is tackling motor vehicle emissions on three fronts: replacing diesel vehicles with cleaner alternatives, retrofitting older vehicles with devices to reduce particulate emissions, and introducing higher standards for vehicles and fuel.

#### *Replacing diesels*

All newly registered taxis have been required by law to use liquefied petroleum gas (LPG) or petrol since 1 August 2001. By the end of 2003, over 99% of taxis were fuelled by LPG.

Since August 2002, the Government has operated an incentive scheme to encourage early replacement of diesel light buses with LPG or electric ones. Owners of diesel public light buses are entitled to a one-off grant of \$60,000 or \$80,000 if they switch to an LPG or electric vehicle, while private diesel light bus owners are entitled to exemption of their first registration tax. By the end of 2003, about 80% of newly registered public light buses were fuelled by LPG.

#### *Retrofitting older vehicles*

Diesel vehicles imported before Euro I vehicle emission standards were introduced in 1995 emit high levels of pollutants. The EPD therefore is helping vehicle owners to retrofit their vehicles with devices that reduce particulate emissions, by offering grants to cover the costs. The retrofit programme for diesel light vehicles (four tonnes or below) was completed in October 2001 and from 1 December 2003, it became mandatory for these diesels to be fitted with the devices.

The programme to retrofit heavy diesel vehicles (over four tonnes) with catalysts has been implemented since end-2002. By the end of 2003, over 15 000 heavy diesels had been retrofitted under the scheme.

#### *Vehicle and fuel standards*

The Government introduced Euro III standards for newly-registered vehicles in January 2001. It is expected that as older vehicles are gradually retired and replaced, this measure will have a positive impact on air quality. Euro IV standards are likely to be introduced in 2006 at the same pace as the European Union. In 2002 ultra-low sulphur diesel became the only diesel fuel allowed at petrol stations by law. According to "International Fuel Quality Center: A Summary of Worldwide Automotive Fuel Specifications, Jan 2004" (web-site: <http://www.ifqc.org/>), Hong Kong is the first Asian city with the most stringent mandatory motor diesel standard.

Year	Smoky Vehicle Reports Received	Year	Smoky Vehicle Reports Received
88	16 418	96	44 665
89	25 147	97	40 536
90	29 032	98	46 802
91	32 919	99	58 960
92	68 974	00	64 118
93	66 705	01	29 236
94	67 551	02	18 533
95	51 635	03	15 392

**Smoky vehicle reports have dropped significantly since the \$1.4 billion package to reduce motor vehicle emissions was introduced in 1999.**

## Regional Air Pollution

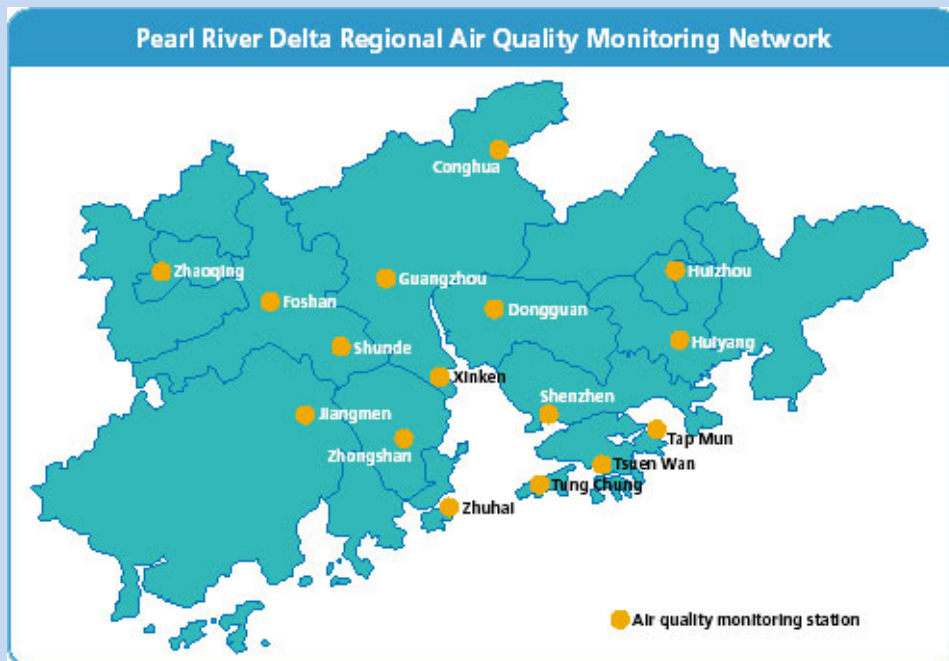
### *Pearl River Delta Air Quality*

Regional air pollution in the Pearl River Delta is getting worse. It is a major contributor to the smog problem in Hong Kong. This led to the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection agreeing in 2002 on targets for reducing air pollution by 2010. Using 1997 emissions as the reference, sulphur dioxide emissions would be cut by 40%, nitrogen oxides by 20%, respirable suspended particulates by 55% and volatile organic compounds (VOCs) by 55% to improve air quality. These targets are achievable in Hong Kong by adopting further controls on power plants and motor vehicle emissions and control measures on VOC-containing products.

In 2003 the EPD has made the following progress:

- prepared a regional air quality management plan which was endorsed by the Joint Working Group;
- compiled a handbook on the methods for calculating air pollutant emissions, for release in 2004;
- drafted a regional emissions inventory based on emissions in 2001;
- developed a joint regional air quality monitoring network with the Guangdong Environmental Protection Bureau to start operation in 2004.

The EPD also has been assisting the government to explore the feasibility of a cross-border emissions trading scheme for power plants in Hong Kong and the region. Given the past achievements in reducing power plant emissions, further reductions will be more difficult and this may be one way of addressing that situation.



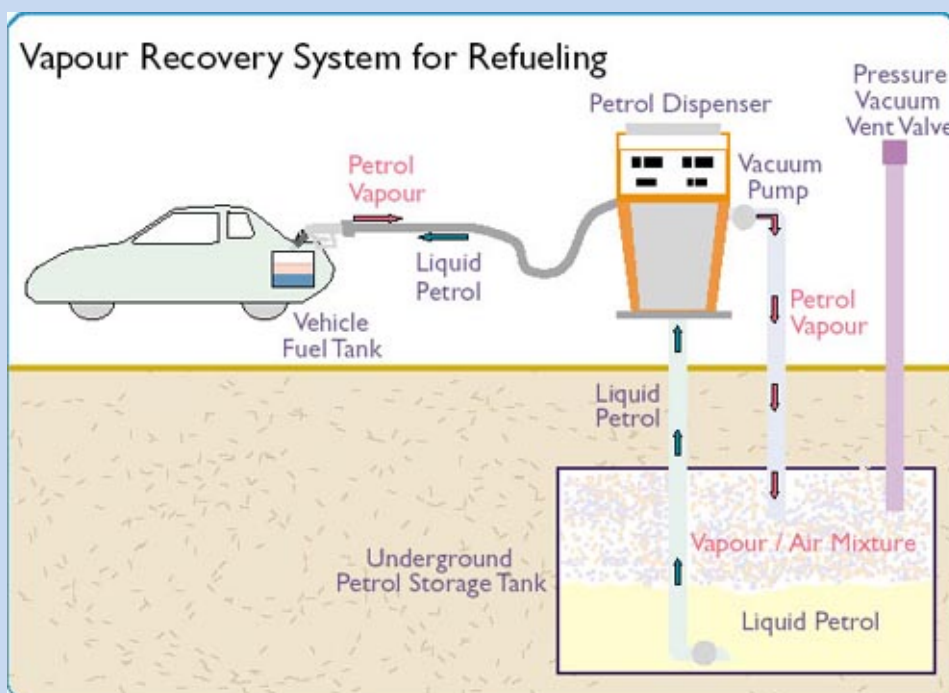
### Other Air Issues

#### Indoor Air Quality (IAQ)

An IAQ certification scheme for offices and public places was introduced in September 2003. Building owners or managers of these premises may employ a competent examiner to conduct IAQ measurements and, if the premises is in compliance with the requirements specified, it can be certified and issued with a certificate. The first certified premises was the EPD's Indoor Air Quality Information Centre. In addition, guidelines for better air quality inside bus and train compartments, as well as stations, were issued in 2003. Hong Kong is one of the few places in the world to provide certification and transport guidelines for indoor air quality.

#### Vapour Recovery

A proposal to control petrol vapour emissions during vehicle refuelling at petrol filling stations was issued for consultation with the oil companies and the Legislative Council in 2003. Following this, the proposal was further refined and the regulations for the control are now being drafted. They will be introduced to the Legislative Council in 2004.



#### Volatile Organic Compounds

A draft proposal was being prepared for introducing a labelling scheme for printing ink, paints and selected consumer products containing volatile organic compounds (VOCs). The implementation of the proposal will help pave the way for limiting the

maximum VOC content of such products as and when necessary. Our target is to consult the public about the proposal in 2004.

#### *Ozone Layer Protection*

A proposal has been prepared to reduce CFC emissions from existing equipment and ultimately eliminate the use of ozone depleting substance. The proposal suggests banning the import of products containing CFCs by phases and expanding the scope of products under control. Separately, in line with the phasing-out schedule established under the Montreal Protocol, the import quota for local consumption of HCFCs has been further reduced by 35% from January 2004 onwards and a publicity programme has been launched to encourage the trade to adopt ozone-friendly alternatives. Moreover, a new combined import and export licence, introduced in early 2004, will improve the control on the transshipment of a scheduled substance through Hong Kong.

The EPD has made extra efforts to reduce the release of methyl bromide by local fumigators during preshipment fumigation. Methyl bromide is a chemical with strong ozone-depleting potential, but its use in preshipment fumigation is not yet regulated under the Montreal Protocol. In a fumigation operation for imported woodlogs for re-export in mid-2003, the fumigator was required to install an activated carbon system to recover most of the spent methyl bromide that would otherwise be emitted after fumigation.



## 5 Our Contribution to the Environment

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**We aim to prevent, minimise and resolve environmental noise problems through intervention in the planning process, implementation of noise abatement measures and enforcement of the Noise Control Ordinance.**

#### 5.2c Quieter Environment

The EPD's priority in noise pollution control is to minimise the nuisance from traffic, construction and commercial and industrial noise. Emphasis is also given to raising awareness of the community's understanding of noise issues.

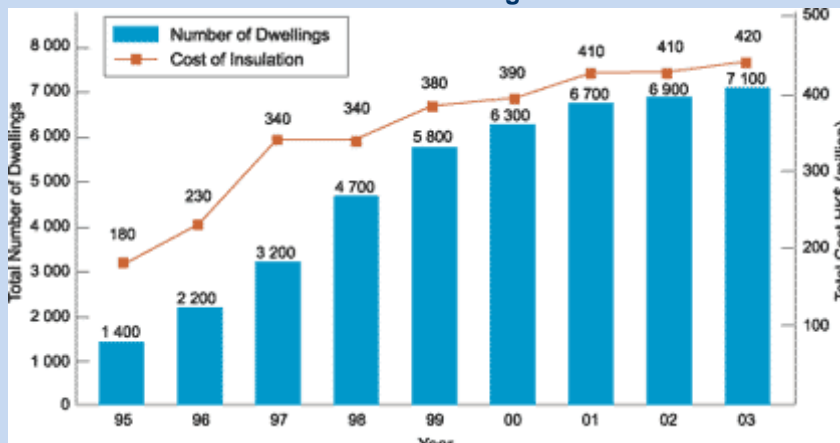
##### Traffic Noise

To control traffic noise, the EPD is doing three things: giving input at the planning stage of new roads and noise sensitive developments, introducing measures to reduce noise on existing roads, and controlling noise at source from new vehicles.

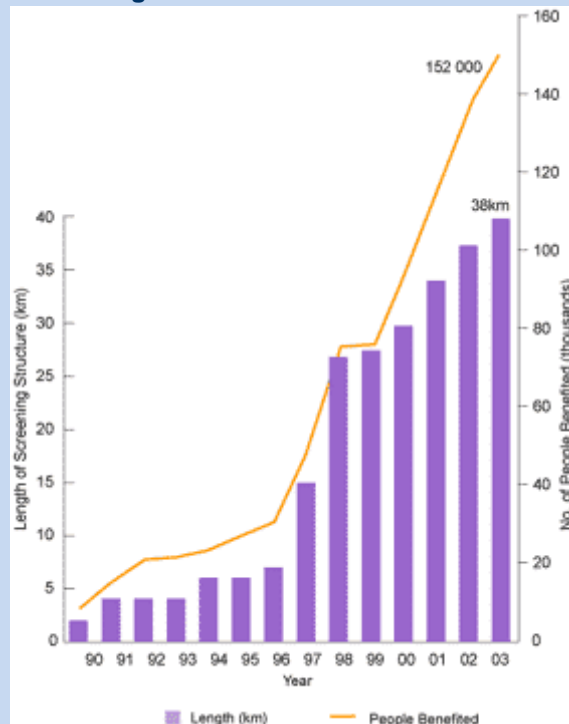
##### Planning Against Noise

The EPD intervenes early in the planning process to ensure new roads do not lead to new noise pollution problems, for example by advising on the best alignment of new roads and the lay-outs of new towns. When new roads are likely to affect receivers, the department also advises on the fitting of noise barriers, enclosures and low-noise surfaces on the roads. Between 1986 and 2003, various land-use measures and suitable road re-alignments were adopted, and about 38 kilometres of noise barriers and enclosures were erected along new roads protecting more than 170 000 dwellings. In addition, the use of low-noise surface material has become the standard for new highways with speed limits of 70 kilometres per hour or above. Where these solutions are not feasible or insufficient to protect existing noise sensitive developments, acoustic insulation and air-conditioners are provided as a last resort. Since 1995, about 7 100 flats have been protected in this way.

**Accumulated Number of Dwellings Insulated in 2003**



## Screening Structure to Reduce Traffic Noise



### *Reducing Noise on Existing Roads*

Many existing roads are plagued by excessive traffic noise. The EPD has identified over 30 road sections that are suitable for noise barriers or enclosures and 72 road sections that are suitable for low-noise surfaces.

On barriers and enclosures, a tentative 10-year programme got underway in 2003 in the New Territories. Concern was expressed over the proposed barrier on Yuen Shin Road. Some residents and drivers considered the proposed barrier to be unattractive and unnecessary, while other residents wanted barriers built closer to their homes. The concerned District Council suggested low-noise surfacing be tried out first and that the situation be reviewed afterwards. The government has accepted this suggestion. Meanwhile, the EPD also co-organised an international seminar in December on the functions and aesthetics of noise barriers.

Low-noise surfaces began to be applied in 2002 to the first batch of 24 roads identified as suitable for the surface, and this work continued in 2003. Work on the next batch of roads will start in 2004.

Traffic management measures are on hold, due to strong opposition from the transport trade. The trade objected to having some roads closed to heavy traffic and shifting traffic from one road to another. There is currently no other solution for the 550 noisy roads that are not suitable for barriers, enclosures or low-noise surfaces.

### *Vehicle Noise Regulations*

In 2002, the government introduced new regulations that adopt the latest noise emission standards from Europe and Japan. Most of Hong Kong's vehicles are from these countries and the EPD will continue to monitor developments and upgrade our standards as required to meet those adopted in these countries.

## **Construction Noise**

Construction work is noisy and typically a source of many noise

complaints. In recent years, the EPD has developed a partnership with the trade to address the problem (see 5.4 Building Partnerships for details).

Since mid-2002, all noise permits issued have been put on the EPD website. The public can find out whether a builder has a permit, while builders can see if any concurrent permit has been issued near their site that would necessitate an adjustment to their work schedule. Builders can now use the self-assessment tools on the website to find out the likely noise impact from their equipment and to retrieve other information for noise permit applications. Meanwhile, the EPD has agreed to shorten the time it takes to issue a noise permit from 23 days to 14 days, provided applications are in good order.

The Noise Control Ordinance was amended in 2002 to make company directors liable for noise offences. The amendment has not been enforced pending the issuing of a Code of Practice. A draft Code was formulated and presented to the Legislative Council in 2003 and the department was asked to further consult the affected trades. The government will report back to the Legislative Council on the draft Code upon completion of the consultation exercise.

### Noise in Hong Kong

A study on noise in Hong Kong is being undertaken by the EPD. The first phase is to take stock of typical noise situations in Hong Kong at residential premises and social venues. The contract was awarded in late 2003. The study will also look at the effectiveness of mitigation measures to reduce traffic noise and provide information for future noise programmes and policies.

### Raising Awareness

A user-friendly education package on environmental noise was launched in 2003. The package encompasses a CD-ROM and website and has two sections, one for the general public and one for youth. The website is up and running and the CD-ROM will be distributed in 2004.

The EPD is also working with the Highways Department to promote better understanding of each other's work, through staff exchange. A six-month trial began in October 2003.



People can learn about noise, its control and mitigation measures from the EPD's noise education website.



## 5 Our Contribution to the Environment

### 5.2 Planning for a Better Environment

- 5.2a Prevention and Mitigation through Environmental Impact Assessment
- 5.2b Better Air Quality
- 5.2c Quieter Environment
- 5.2d Controlling Water Pollution
- 5.2e Environmentally Sound Waste Management and Facilities

**We aim to ensure that the quality of our marine and freshwater is such that the various conservation goals for them can be met, and that plans are formulated and implemented to ensure Hong Kong's sewage systems can operate safely and effectively both now and with future urban development.**

#### 5.2d Controlling Water Pollution

The EPD monitors rivers, streams, beaches and marine waters and introduces improvement measures to ensure water quality meets health-based targets.

##### Water Quality Monitoring

The EPD regularly monitors water quality based on physical and chemical parameters. In 2003 a study on the use of biological indicators for monitoring marine pollution was completed and a biological indicator monitoring programme will be implemented in phases starting in 2004. A study on toxic substances in local waters was also completed and concluded Hong Kong did not have any major problems in this area. The study recommended on-going monitoring of toxic substances in the marine environment and preparation work will be initiated in 2004.

Water quality monitoring results for 2003 were as follows:

- 87% of marine water samples met water quality objectives (WQOs), similar to that in 2002;
- 82% of samples from rivers and streams met WQOs, similar to that in 2002;
- 34 of the 41 gazetted beaches (83%) met WQOs for bathing beaches, as against 33 beaches in 2002. The number of beaches graded 'good' was unchanged at 23, while the number of beaches graded 'poor' and 'very poor' was 7, down 1 from 2002. The rest were graded 'fair'.

Improving beach water quality has been a priority for the EPD.

Number of beaches ranked Good, Fair, Poor and Very Poor in 1997 and 2003		
Year	1997#	2003
Beaches with good water quality	10 (24%)	23 (56%)
Beaches with fair water quality	16 (39%)	11 (27%)
Beaches with poor water quality	12 (30%)	1 (2%)
Beaches with very poor water quality	3 (7%)	6 (15%)

# Commencement of the gradual implementation of the Harbour Area Treatment Scheme (HATS) and High Priority Sewerage Programme

Rank	<i>E.coli</i> count per 100ml*	Minor illness rate** (Cases per 1000 swimmers)	WQO Compliance
Good	<=24	UD	Complied
Fair	25-180	<=10	
Poor	181-610	11-15	Not complied
Very Poor	>610	>15	

\* Geometric mean *E.coli* count based on all data collected during the bathing season.

\*\* Skin and gastrointestinal illnesses.

UD Undetectable

### Harbour Area Treatment Scheme (HATS)

The Harbour Area Treatment Scheme aims to collect, treat and properly dispose of all sewage around Victoria Harbour. In late 2001 the first stage was completed, resulting in 75% of sewage in the harbour, from Tsing Yi, Kwai Chung, Kowloon, Tseung Kwan O, Shauiwan and Chai Wan, being given chemically-enhanced primary treatment (CEPT). Water quality has greatly improved in the central and eastern parts of the harbour, but deteriorated in the western harbour where the treated effluent is being discharged. A higher grade of treatment through implementation of the next stages of HATS would address this problem as well as the potential deterioration of water quality due to future increase in population on both sides of the harbour. A public consultation will be carried out in 2004 for agreement on the best option for the final configuration of HATS.

### Water Quality Improvements after Commissioning of HATS Stage 1



HATS has improved water quality in the central and eastern parts of the harbour, but more work is needed to bring improvements in the western harbour.

In 2003 three major trials and studies on HATS were completed:

- A pilot trial concluded the Biological Aerated Filter technology (BAF) was applicable in Hong Kong (this had been recommended by an international panel that reviewed HATS in 2000). BAF would provide a higher level of treatment than the CEPT now being used, but it is anticipated that higher capital and recurrent costs would be incurred.
- A study on possible sites for treatment plants concluded surface land was available on Lamma Island. The other options – in North Point, Sandy Bay, and Stonecutters Island – would require treatment facilities to be built underground, to optimise land use.

- A consultancy study recommended that a single private operator should design, build and operate the proposed treatment facility.

The results of the studies will be released in 2004 as part of the public consultation on the best way forward for HATS.

## Other Sewage Projects

All current reviews of sewerage master plans (SMPs) were completed in 2003, to take into account likely increases in population and development plans up to 2016. They recommended measures to upgrade sewers, treatment plants and pumping stations, as well as carry out repair work where needed.

An in-house investigation into stormwater pollution began in 2003, focusing on Mong Kok. The aim is to identify the relative contribution of different polluting sources to the stormwater system to facilitate a policy decision on the way forward in tackling this issue. A workshop on the subject was also organised with Canada and Australia, to share experiences in dealing with the problem.

Effluent re-use was another focus in 2003 and a scoping study for a pilot effluent re-use scheme in North District was completed during the year.



## Beneficial recycling and reuse of wastewater.

## Regional Collaboration

The EPD and the Shenzhen Environmental Protection Bureau jointly completed the Mirs Bay Water Quality Regional Control Strategy Study in 2003. The study established a pollution inventory, made projections based on water quality modelling, and concluded that development should be capped at below Mirs Bay's environmental assimilative capacity. The study's recommended pollution control strategy was endorsed in December 2003 by the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection.

In 2000, Hong Kong and Guangdong agreed on a strategy to control water pollution in Deep Bay. It was also agreed that the strategy be reviewed every 5 years with the first review scheduled for 2005. In this regard, the EPD and the Shenzhen Environmental Protection Bureau reached an agreement at the end of 2003 on an overall cooperation framework and the establishment of a joint study team to implement the first progress review of the water pollution control strategy.

Other regional work in 2003 included the appointment of contractors, under the Pearl River Delta Water Quality Protection Special Panel, to carry out modelling work and collect data on the Pearl River Estuary. The information will be used to develop a numerical water quality model and eventually formulate a joint water quality management plan for the estuary.

In the area of monitoring, the EPD conducted marine monitoring method validation and interlaboratory calibration work with the State Oceanic Administration (SOA).

### **Looking Ahead**

- To work out a plan with the Shenzhen Authority for conducting the first review of the Deep Bay Water Pollution Control Joint Implementation Programme, which aims to improve water quality in the bay.
- To implement in phases a bioindicator monitoring programme, which will track the effects of pollutants on the ecological health of the marine environment in Hong Kong.



## 5 Our Contribution to the Environment

### 5.2 Planning for a Better Environment

- ❖ 5.2a Prevention and Mitigation through Environmental Impact Assessment
- ❖ 5.2b Better Air Quality
- ❖ 5.2c Quieter Environment
- ❖ 5.2d Controlling Water Pollution
- ❖ 5.2e Environmentally Sound Waste Management and Facilities

**We aim to provide convenient and cost-effective waste management facilities, as well as promote a sustainable approach to waste management in Hong Kong, in which we consume less, produce less waste and re-use or recover value from waste.**

#### 5.2e Environmentally Sound Waste Management and Facilities

The EPD manages Hong Kong's waste facilities, proposing new facilities be built when necessary. It also manages waste arisings through policies and programmes aimed at reducing waste loads.

##### Waste Loads

Hong Kong is producing growing quantities of waste as its population and wealth increase. In the last five years, the total waste disposed of at landfills, including municipal solid waste, construction waste and special waste such as asbestos waste and sludge but excluding chemical waste, increased by 2.4 per cent per year while the population grew by only 0.8 per cent per year. The increase in waste loads is greater than anticipated, meaning landfills are filling up ahead of schedule.

In 2003:

- 6.5 million tonnes of waste were disposed of at landfills, including 3.4 million tonnes of municipal solid waste (53% of the total) and 2.5 million tonnes of construction waste (38% of the total).
- Waste loads decreased by 16% as compared with 2002 mainly due to a reduction in construction waste. However, the quantities of other waste types have remained at about the same level as 2002.
- Special wastes were also handled by the EPD, including 63 000 tonnes of livestock waste, 307 000 tonnes of sewage and water treatment sludge and 252 000 tonnes of other special waste.
- The Chemical Waste Treatment Centre treated 43 000 tonnes of chemical waste.

Year	Annual Quantity of Solid Waste (Million tonnes)	Difference with previous year
1998	6.0	-
1999	6.6	8.9%
2000	6.5	-0.8%
2001	6.1	-6.0%
2002	7.7	25.8%
2003	6.5	-16.1%

## Waste Reduction

To address the problem of growing waste loads, the government published a Waste Reduction Framework Plan in 1998. The goal is to divert 40% of municipal solid waste from landfills by 2007 through reduction, reuse and recycling as against 33% in 1998. In 2003, about 41 per cent of waste was recycled - a jump of five per cent over 2002 due to an exceptionally high demand for waste metal. The overall recovery level is expected to drop once this demand returns to normal.

Year	Annual Quantity of Solid Waste diverted (million tonnes)	Recovery rate (%)
1998	1.56	33
1999	1.54	31
2000	1.76	34
2001	1.94	36
2002	1.96	36
2003*	2.35	41

\* Provisional figures only. The sharp increase in the waste recovery rate in 2003 was largely due to a very high demand from Mainland China for ferrous and non-ferrous metals. It is expected the recovery rate will drop when the demand for metals returns to normal.

EPD has facilitated, through the Wastewi\$e Scheme and other collaboration programmes, several recycling programmes involving 1 333 housing estates and 1 199 primary and secondary schools, as well as hospitals, hotels, supermarkets, the airport, public transport facilities, and tertiary and vocational institutes. A trial on dry-wet waste separation in four housing estates was launched in March 2003. A review will be conducted upon completion of the pilot scheme in early March 2004 to examine the feasibility, logistics and cost-effectiveness of this form of waste recovery.

Apart from community recycling programmes, another focus of waste reduction is product responsibility. A pilot scheme in which mobile phone operators took back batteries for recycling was conducted in 2002 but had an unsatisfactory response. A trial to extend the collection network to housing estates was started in November 2003 to increase public participation, and will be completed in March 2004. Meanwhile, in 2003 the EPD ran a trial that demonstrated used tyres could be collected for recycling. It also formed a working group on waste tyre management with the Hong Kong and Kowloon Rubber Tyres Commercial General Association.

Pilot schemes that explore operational details and resources requirements for product responsibility arrangements were also commissioned through two community-based partners. The Caritas Youth and Community Service is collecting used computers, while the St James Settlement is collecting electrical and electronic equipment. Items that are still in working condition are donated to the needy and the rest are dismantled to recover materials for recycling. The schemes were well received by the public and more than 25 000 units of computers and electrical appliances were collected, exceeding the 2003 target by more than 30%.

The EPD has also proposed a Recovery Park in Tuen Mun Area 38 and is conducting an environmental impact assessment on the project. The department will proceed to seek approval from the Town Planning Board on land-use rezoning for the site reserved for the park. Private sector involvement is also being sought as there are not enough government resources available to cover recurrent costs.

## Construction Waste

Construction waste loads fluctuate depending on whether public filling outlets are available to accept the waste. Even when some outlets are available, significant quantities still end up in landfills. In 2003, construction waste made up 38% of the waste being dumped in landfills.



Two measures were introduced in 2003 to reduce construction waste loads at landfills. A construction waste charging scheme was proposed to the Legislative Council in December, with the hope that it could come into effect in 2005. The EPD proposed to charge \$27 per tonne for dumping waste at public fill sites, \$100 per tonne for dumping it at sorting centres (provided the waste contains at least 50% inert material) and \$125 per tonne for dumping it at landfills. Hong Kong lags behind most other countries in charging for waste disposal.

The second measure was a technical circular issued by the Environment, Transport and Works Bureau in May 2003, requiring all tenders for public works projects to include a waste management plan. The EPD worked consistently to encourage government bureaux and departments to take the lead in diverting waste away from landfills. The circular was prepared by a working group under the Waste Reduction Task Force for the Construction Industry comprising representatives from various sectors of the construction industry, with EPD as one of the active members. Contractors will receive a financial incentive to reduce waste at source, in the form of a dedicated payment for carrying out the plan properly.

## Waste Facilities

### Landfills

The EPD manages three strategic landfills which were supposed to last until 2020 but will run out of space in the next seven to 11 years. In addition, the department must plan for future waste arisings. Hong Kong will need another 500 million tonnes of landfill capacity to meet demand up to 2050, but the existing landfills have only 100 million tonnes of capacity left. A study on *Extension of Existing Landfills and Identification of Potential Waste Disposal Sites* was completed in 2003 to address the problem.

The study recommended that work start immediately to extend the existing landfills to provide an additional 100 million tonnes of capacity. This recommendation has been accepted and the next step will be a detailed EIA and feasibility study for each of the landfill extensions. The study also proposed a new land-based landfill and a new landfill on an artificial island for further study. This option would provide capacity for another 300 million tonnes of waste.

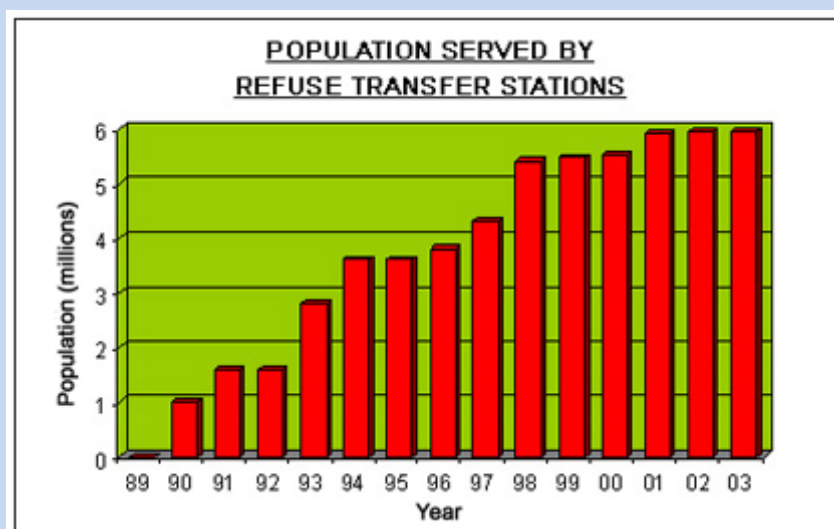
### Waste Treatment

In addition to landfills and waste reduction programmes, the EPD is also exploring waste management options to further reduce the bulk of waste.

An invitation for Expressions of Interest in 2002 attracted 59 submissions. In 2003 these were grouped under six types of technology: incineration, gasification, co-combustion, composting, mechanical biological treatment and anaerobic digestion. Several waste management technology options have been formulated for further study by an advisory group whose membership comes from key stakeholders in the community. It is planned to consult the public on the recommendations towards the end of 2004.

#### *Refuse Transfer Stations*

The EPD has built a network of eight refuse transfer stations where waste is containerised before being taken by container trucks or marine vessels to landfills. A study in 2003 confirmed that this system is cost-effective because it replaces the large number of trips that would have to be made by refuse collection vehicles to landfills.



#### **Other Waste Issues**

*Clinical Waste* – A clinical waste control scheme was submitted to the Legislative Council in June 2003 and is awaiting approval. Medical professionals would not require a license for storing the waste, but would have to hand it over to a licensed collector for transportation to a final disposal facility.

*Risk-Based Remediation Goals (RBRGs) for Contaminated Land* – A three-year consultancy cum in-house study resulted in the development of local RBRGs to replace the existing Dutch B standards for the assessment of contaminated land in Hong Kong. Consultation with stakeholders for using the RBRGs is scheduled to begin in the financial year 2004/05.

*Electronic Waste* – In response to reports that computer waste was being shipped through Hong Kong to Guangdong disguised as 'used goods', the EPD contacted the source countries and worked with Mainland officials to clamp down on the problem. Some of these shipments are not allowed under the Basel Convention on transboundary shipments of hazardous waste. One man who was caught with a shipment of waste computer monitors and television sets in Hong Kong was given a two-month jail sentence.

*Low Level Radioactive Waste* – Work began in 2003 on a facility for storing low-level radioactive waste on Siu A Chau. The facility will open in late 2004.



**An artist's impression of the special facility for low-level radioactive waste.**

*Landfill Gas* – A programme to collect landfill gas for use by utility companies was under discussion in 2003.

*Landfill Afteruse* – Preparation work to convert the old Sai Tso Wan landfill into a grass pitch for soccer and baseball continued in 2003, with the facility set to open in Spring 2004.

*Landfill Restoration* –Tenders were invited for work to restore Pillar Point Valley landfill, the last of the disused landfills to be restored.



## 5 Our Contribution to the Environment

### 5.3 Effective Enforcement and Emergency Response

The EPD aims to deter pollution offences through regulation (such as licensing specific polluting industries) and enforcement against offenders. It has also developed a partnership programme to improve operators' understanding of the law and their compliance (see 5.4 Building Partnerships for details). The department has also strengthened its complaints response system to ensure complaints about pollution are dealt with promptly.

#### Licensing

The EPD has set up one-stop shops that accept applications for all types of pollution control licences. Applicants may either visit one of the nine one-stop offices in person or apply on-line.

#### Licences and Permits Issued in 2003

Ordinance	Activities	No. Issued
APCO	Chimney Approval	304
	Specified Process Licence	12
	Open Burning Permit	1
	Sub Total:	317
NCO	Construction Noise Permit (PP)	342
	Construction Noise Permit (GW-Total)	2 430
	Sub Total:	2 772
WDO	Registration of Chemical Waste Producer	1 103
	Chemical Waste Disposal Licence	21
	Chemical Waste Collection Licence	28
	Waste Import and Export Permit	2
	Sub Total:	1 154
WPCO	New Licence	2 039
	Licence Renewal	2 457
	Sub Total:	4 496
DASO	Marine Dumping Permit	140
	Sub Total:	140
Other	Clinical Waste Disposal Permit	179
	Sub Total:	179
	Total:	9 058

**We aim to establish an effective legislative and efficient control framework in order to safeguard the health and welfare of the community from any adverse environmental effects.**

**We will actively encourage businesses and other organisations to adopt pollution control measures.**

**We have an emergency response system for handling environmental incidents and are prepared to respond quickly to minimise the damage to the environment.**

	Our Service	Target for 2003	Achievement* in 2003
Waste	Registration of Chemical Waste Producer	95% in 30 days	100%
	Marine Dumping Permit	90% in 18 days	100%
	Clinical Waste Disposal Permit	95% in 9 calendar days	100%
Water	Water Pollution Control Ordinance licence (Excluding licences requiring public notification)	95% in 14 working days after receipt of payment	100%

\*This refers to the percentage achieved against the targets, with 100% representing full compliance or exceeding the targets.

Note: All the above pledges met their respective targets.

## Inspections

The EPD's inspection system has undergone changes due to fewer resources. Previously, polluters were inspected a preset number of times per year. In 2003, a "beat" system was introduced in which officers patrolled areas and carried out routine inspections, with prioritised response to complaints. Targeted enforcement was also stepped up against known polluting activities, mainly illegal livestock waste and oil discharges. Although with fewer resources, Local Control Offices still maintained the same standard of service to the public and carried out a total of 64 309 targeted and routine inspections in 2003. The department is also trying to save time through greater use of portable digital assistants. These are somewhat limited in their application, for example in recording statements, so it is hoped mobile computing capabilities can be developed in 2004.



An EPD inspector tries out a palm-held device in enforcement work.

## Complaints

In 2002 the EPD Customer Service Centre was set up to ensure callers can speak promptly to one of our trained telephone operators. In 2003 more than 95% of callers spoke to an operator before hanging up. The average waiting time was four seconds, as against a target of 12 seconds. 40% of complaints and 98% of enquiries were resolved over the phone. The complaints information database used by the Service Centre is based on a geographical information system and it received a Special Achievement in GIS Award at the 23rd Annual ESRI International User Conference held in July 2003 in San Diego, USA.

### Channels of Pollution Complaint in 2003

Channels	No. of cases
Phone in	11 076
Noise complaints handled by Police	4 010
Via other Government Dept	3 606
By Letter / Fax	2 656
Via Internet (e-mail)	1 765
Via Media	248
Others	538
Total	23 899

### Performance Pledge in 2003

Our Services	Targets for 2003	Achievement
Response to Complaints		
Incidents involving immediate threat to health	Immediate	100%
Other pollution complaints	95% in 3 working days	100%

In 2003 the EPD investigated 19 889 complaints, similar to 2002 when 19 449 complaints were investigated. The Police investigated another 4 010 complaints. There was a major increase in complaints to the department about waste and water pollution due to heightened concerns during the outbreak of severe acute respiratory syndrome. Noise complaints decreased as more operators complied; economic factors may have also had an influence as less construction work was carried out on Sundays. Air complaints were also up, with more complaints being aired through the media. Reports of smoky vehicles continued to drop due to the motor vehicle emissions control programme.

### Complaints Breakdown by Media

Nature	2003	
Air	Smoky Vehicle	4 729
	Other	5 516
Noise	Cases handled by EPD	5 698
	Cases handled by Police	4 010
Waste		1 193
Water		2 696
Miscellaneous		57
Total		23 899

### Prosecutions

The EPD published its Prosecution Policy on its website in 2003. This is not a requirement, but was carried out in the spirit of greater transparency and in pursuance of the cause of justice, and to make the prosecution process more understandable to the public.

Prosecutions are handled by a Central Prosecution Section (CPS), which was set up in 2001 under the leadership of a barrister who is also a chartered building surveyor and an Authorized Person. The section deals with not-guilty pleas and in 2003 this involved 74 cases.

The CPS trains in-house prosecutors and provides advice to enforcement staff on legal matters, case preparation and the gathering of evidence. In 2003, a Legal Information System (LIS) was introduced to enable local control officers to download information from a centralised source, including court judgements and legal circulars such as "The Disclosure of Material to the Defence in Legal Proceedings" and "How to be a prosecution witness in Magistrate's court".

The number of prosecutions has dropped since 2000 due to the success of the partnership programmes, better awareness of the legal requirements among operators and a downturn in economic activity. In 2003 there were 535 convictions, as against 1 689 convictions in 2000. Convictions were down for all four of our formal partners – the construction industry, restaurants, vehicle repair workshops and property management. An offender was jailed for exporting hazardous waste without a permit, and that was the only anti-pollution imprisonment sentence imposed during the year.

#### Breakdown of Convictions by Ordinance

Ordinance	No. of Convictions			
	2000	2001	2002	2003
APCO	467	276	215	207
NCO (Including cases handled by Police)	477	320	239	123
NCO (Cases handled by Police)	55	32	27	17
WDO	398	251	202	133
WPCO	342	176	110	64
DASO	3	12	3	7
OLPO	2	6	3	1
EIAO	0	0	0	0
Total	1 689	1 041	772	535

The EPD provides technical advice to industries on how to comply with anti-pollution laws. In 2003, 21 seminars were organised for more than 3 300 participants.

#### Other Work



The EPD and the Police co-operate in enforcement against smoky vehicles. The Police have the authority to hand out \$1,000 fixed-penalty tickets to offending vehicles. The number of offenders has dropped due to

the EPD's vehicle emission control programme.

The Sewerage Connection Programme involves connecting unsewered villages in the New Territories to a proper sewerage system. In 2003, 333 village houses and 2 800 villagers were connected. Since 1995, 3 675 village houses and 26 900 villagers have been connected.

### **Response to Emergency Incidents**

The EPD works closely with other government departments such as the Fire Services Department, Marine Department and Government Laboratory to provide a speedy response to environmental incidents. Comprehensive response plans are in place for dealing with 36 different types of emergency situations on land and at sea, including oil and chemical spills.

The EPD provides dedicated support for all emergency situations and the Chemical Waste Treatment Centre contractor provides chemical waste collection and disposal services for incidents involving chemicals. In 2003 the EPD was involved in 26 land-based incidents and 4 marine-based incidents. Clean-up work was required in these incidents and was carried out satisfactorily.

An Emergency Response Drill team was set up in 1999 to enhance staff performance and readiness in emergency situations. In 2003 it conducted 2 drills.



## 5 Our Contribution to the Environment

### 5.4 Building Partnerships

The EPD has developed partnerships with stakeholders and professionals at the local and national levels to exchange views and work jointly on environmental improvement programmes. It has also developed partnerships with operators in polluting industries to encourage greater compliance with the letter and spirit of environmental controls.

#### Locally

##### *Formal partnerships*

Formal partnerships were initiated in 2001 with four industries that attract a large number of pollution complaints – the construction industry, restaurants, vehicle repair workshops and property management. The partnerships involve training, producing manuals and offering advice, among other activities. The intention is to promote compliance and understanding without compromising enforcement actions (see 5.3 Effective Enforcement and Emergency Response for details).

- Construction Industry: The EPD and Hong Kong Construction Association jointly held three workshops for 710 participants in 2003. A 30-hour course on green construction management was introduced for the trade at Hong Kong Polytechnic University. Green construction examples taken from Hong Kong construction sites were posted on the EPD website. And the EPD agreed to shorten the processing time for noise permit application from 18-23 days to 14 days, provided applications were in good order.
- Restaurants: Two local restaurant trade associations and related stakeholders worked with the EPD to organise a mooncake containers recovery programme. About 25 000 containers were collected, which were subsequently compacted and transported to the Mainland for recycling. An Environmental Help Desk Service, comprising a Hotline and a dedicated website, has been set up since June 2001 to provide free one-stop assistance advice for restaurants. In addition, a six-month trial was jointly conducted with the Chinese Cuisine Training Institute in 2003 on a water-saving device seen during a study trip to Japan in 2002.
- Vehicle Repair Workshops: A guidebook and educational VCD on how workshops can comply with environmental regulations was released in 2003. Preparations were also made for a “Green Garage Election 2004” to be held in 2004 with the Hong Kong Vehicle Repair Merchants Association Ltd and the Environmental Vehicle Repairers Association Ltd.
- Property Management: A dedicated web page was developed to offer green advice to property managers in 2003. Six large property management companies were invited to give talks on how they are addressing environmental issues. The EPD was also assisting the Lands Department draft environmental clauses for Deeds of Mutual Covenant.

##### *Government partnership*

The EPD organises training and exchanges with other government departments to enhance understanding and compliance with various

**We will work with others and continue to build new partnerships in the pursuance of sustainable development objectives.**

**We actively encourage businesses and other organisations in Hong Kong to adopt environmental management systems and pollution prevention measures.**

environmental regulations. In 2003 we organised exchanges with the Highways Department focusing on noise pollution. We also organised 143 seminars and education sessions on general environmental knowledge for about 2 300 civil servants.

Since 1999 the EPD has worked with the Government Logistics Department to establish green product specifications for commonly used items such as paper products. By the end of 2003, 37 product categories carried green specifications. The information is available on the EPD website so the private sector and outside organisations can refer to it. The EPD commenced a consultancy study in December 2002 to update green specifications of products which should be useful for future reviews of this issue.

The EPD also advises the Environment, Transport and Works Bureau's Safety & Environmental Advisors Committee on compliance with environmental legislation and waste management matters to be implemented by the Works Department. The committee was formerly called the Safety Advisors Committee and its ambit was expanded in 2003 to include environmental management, in line with developments overseas and in the private sector.

#### *Waste partnerships*

The EPD has facilitated the Airport Authority, hotels, hostels, university and tertiary institutions, the recycling trade, the packaging trade and retailers, among others, in preventing and reducing waste. This has been done through the Wastewise Scheme, regular discussion forums and ad hoc meetings and dedicated programmes. The department has also worked with hospitals and clinics on addressing the problem of clinical waste.

The EPD is also keen to promote Product Responsibility Schemes (PRS), in which Hong Kong lags behind many other developed countries. A PRS trial involving mobile phone batteries was begun in 2002 but the response was unsatisfactory. A trial to extend the collection network to housing estates is being conducted to increase public participation. In 2003 a working group on waste tyre management was formed with the Hong Kong and Kowloon Rubber Tyres Commercial General Association, which looked at collection and end uses. The EPD also commissioned two community groups, the Caritas Youth and Community Service and the St James Settlement, to conduct trials on recovering used computers and used electrical and electronic equipment.

Construction waste is another area of concern. A task force chaired by the Hong Kong Construction Association aims to provide a forum for the construction industry and the Government to pursue construction waste reduction.

#### *Environmental Impact Assessment Ordinance partnerships*

Four User Liaison Groups have been formed in connection with the Environmental Impact Assessment Ordinance (EIAO). These groups cover government departments, consultants, utility companies, and contractors and private developers. In 2003 eight User Liaison Group meetings were held and seven interim guidance notes were issued.

An EIAO Support Section was established in 2002 to carry out an EIA Training and Capacity Building Programme for government works departments and provide assistance to the private sector. Between November 2002 and mid-December 2003, a total of 23 workshops were held for 550 participants from both the private and public sectors, including 18 tailor-made workshops for government departments. Also, a Training Manual for the EIA Mechanism, based on a project development cycle, was produced in 2003 to assist understanding of the EIA process.

#### *Corporate Environmental Management partnerships*

As part of the Government's drive to save paper, the Environment,

Transport and Works Bureau (ETWB) has announced that all bureaux and departments should, on a voluntary basis, aim to reduce their photocopying paper consumption by an average of 2.5% a year from fiscal year 2003/04 to 2006/07, representing an overall 10% reduction. To help all Green Managers (our partners) in the bureaux and departments attain the above voluntary targets, the ETWB and EPD jointly organised a seminar in December 2003 to share views and experiences on practical paper saving measures and other useful green office initiatives. More than 170 officials from about 70 bureaux and departments attended the seminar. Useful case studies on paper saving in both public and private organisations were presented. To further help bureaux and departments to fulfil the paper saving target, all the presentation materials have been uploaded to the Government's internal web site for easy reference.



**Government green managers attend a paper saving seminar.**

The EPD has also been seeking support and advice on promoting the ISO 14001 environmental management system (EMS) to small and medium sized enterprises (SME). A study on the issue was carried out in 1999 and, as a follow up, the department has liaised closely with various strategic partners, including the University of Hong Kong (Corporate Environmental Governance Programme), the Hong Kong Electronic Industries Association, the Federation of Hong Kong Industry (Hong Kong Electronics Industry Council), the Centre of Sustainable Design, and members of the ISO 14000 Liaison Group (the Trade and Industry Department, Business Environment Council, Hong Kong Quality Assurance Agency, Hong Kong Productivity Council and EPD). They have been asked to give their expert advice in formulating strategies to provide targeted support on environmental management information and ISO 14001 EMS for two priority groups, the electrical/electronic sector and the construction industry.

The EPD also promoted wider adoption of environmental performance reporting in the private sector and acted as an independent endorser of the Association of Chartered Certified Accountants' Environmental Reporting Award in 2002 and its Sustainability Reporting Award in 2003.

### *Other Partnerships*

The EPD also works with the private sector on trial schemes, such as bus companies with whom we tested Ultra Low Sulphur Diesel fuel and the transport trades with whom we tested particulate removal devices. In 2002, the EPD joined with the Hong Kong Society of Accountants to provide training in environmental management to its members.

### *Consultation*

Formal consultation on environmental issues is conducted through the Advisory Council on the Environment and the Environmental Affairs Panel of the Legislative Council. In addition, the EPD participates in District Council, industrial and business association meetings to explain new environmental initiatives and to seek their views. District Councils also work with the Environmental Campaign Committee on waste reduction and awareness-raising campaigns, as do green groups and community groups. The EPD meets regularly with these groups to exchange views.

## **Nationally**

The EPD maintains regular contacts with authorities on the Mainland to tackle cross-boundary environmental issues. The department has signed a Memorandum of Understanding (MOU) with the Mainland State Environmental Protection Administration on the control of cross-boundary waste shipments. In 2003 a joint action was carried out against shipments of hazardous electronic waste. An MOU has also been signed with the State Oceanic Administration (SOA) to provide for Hong Kong's participation in China's National Marine Environment Monitoring Network, which is undergoing re-structuring. A report on the EPD-SOA marine monitoring method validation exercise was completed in 2003 to ensure the compatibility of each other's monitoring data. In 2003 the EPD also received approval to liaise directly with the State Environment Protection Administration on EIA matters.

Closer to Hong Kong, the EPD works with its counterparts in Guangdong on shared environmental issues. Through the Joint Working Group on Sustainable Development and Environmental Protection, which was launched in 1999, a number of initiatives were carried out on the problem of regional air pollution in 2003 (see 5.2b Better Air Quality for details). The Joint Working Group has also set up a Pearl River Delta Water Quality Protection Special Panel, which is continuing with work to develop a numerical water quality model for the estuary region.

In 2003, the EPD and the Shenzhen Environmental Protection Bureau completed a joint study on the Mirs Bay water quality regional control strategy and drew up an action plan to protect the clean waters of Mirs Bay. Work also progressed on several cross-boundary environmental impact assessment (EIA) studies, including the completion of the EIA for the submarine gas pipelines from Shenzhen to Tai Po and the start of the EIA for the Tonggu Channel of Shenzhen Port in 2003, as well as the upcoming EIA for the Hong Kong-Zhuhai-Macao Bridge (see 5.1 Our Contribution to Strategic Decision-making for details). Joint celebrations for World Environment Day were organised with our regional counterparts in Guangzhou, Shenzhen, Zhuhai, Macau, Dongguan and Zhongshan.

## **Internationally**

The EPD's Memorandum of Understanding (MoU) with Canada was renewed in 2003. It was first signed in 1992 and a number of useful exchanges and workshops have been organised under the MoU over the years.

The EPD also organised an international seminar on noise barriers with the Highways Department, Hong Kong Polytechnic University and Hong Kong Institute of Acoustics, involving speakers from Australia, Belgium,

Britain and Japan, and a workshop on stormwater management attended by environment officials from Canada and Australia.



## 5 Our Contribution to the Environment

### 5.5 Environmental Awareness and Education

The EPD supports a number of programmes that encourage community involvement in environmental protection. These programmes reach into every sector of the community, from housing estates, schools and community groups to businesses, other government departments and District Councils.

#### Community Relations Unit

The Community Relations Unit is the main co-ordinator of the EPD's community education programme and the secretariat to the government-appointed Environmental Campaign Committee (ECC), which organises activities to promote community participation in environmental protection.

In 2003 the Community Relations Unit:

- organised 291 programmes;
- delivered 580 talks;
- worked with 3 061 organisations including nine District Councils (the latter figure is down from 2002 due to the outbreak of severe acute respiratory syndrome (SARS) and the District Council elections); and
- organised 895 guided tours of the EPD's Visitors Centre and Environmental Resource Centres for about 57 000 local and overseas visitors.

**We aim to promote community awareness through environmental campaigns, publicity, education and action programmes, and public access to environmental information, with a view to harnessing the community's support for, and contribution to, achieving the desired environmental goals.**

#### Campaigns

##### *Waste recycling*

The EPD and ECC organise campaigns to encourage community participation. The largest is the Waste Recycling Campaign in Housing Estates, which began with 41 housing estates in 1998. Colour-coded bins in blue, yellow and brown are provided to collect waste paper, aluminium cans and plastic bottles for recycling. The campaign now reaches 1 333 housing estates covering 1.58 million households.

#### Waste Recycling Campaign in Housing Estates

	No. of estates	No. of households
Phase I	41	160 000
Phase II	132	458 000
Phase III	300	809 000
Phase IV	716	1 193 000
Phase V	1 050	1 429 000
Phase VI	1 218	1 527 000
Phase VII	1 333	1 580 000

**Note: Plastic bottles were not included in Phases I & II of the Campaign.**

The government's Environment and Conservation Fund (ECF) provides grants to non-government organisations to promote waste recovery in the community, including a pilot scheme on wet/dry waste separation. Since 2001, \$13.82 million has been given to 24 green groups and community groups to organise 40 waste recovery projects. The ECF has also granted about \$1.23 million to community groups and non-profit making organisations since April 2000 for implementing environmental education and community action projects on waste reduction and recovery. A waste campaign is also being run in schools (see below).

#### *Annual events*

Two major events are organised each year by the ECC, the World Environment Day festivities in June and the Hong Kong Environmental Protection Festival in the latter part of the year.



**Guests holding up their "green wishes" at World Environment Day 2003 celebrations.**

The United Nations has designated June 5 as World Environment Day and each year the day is celebrated in Hong Kong. In 2003 events were affected by the outbreak of severe acute respiratory syndrome (SARS). To minimise the risk of infection, celebrations were held outdoors and later in the month, on June 22. The theme was "Walking for a Green and Healthy Hong Kong". More than 100 000 people participated in walks in 18 districts of Hong Kong, including 31 green walks organised by the EPD and green groups on that day. As in past years, a joint celebration was organised with the Environmental Protection Bureaux of Dongguan, Guangzhou, Shenzhen, Zhongshan and Zhuhai and the Macau Environment Council.

The Hong Kong Environmental Protection Festival was held in November. A one-day event featuring a " Forum on Business Opportunities for SMEs in Environmental Protection Industry " was held to promote the waste recovery and recycling industry. 17 seminar sessions were organised and a trade show on waste recovery ran alongside the event. More than 8 000 people attended the seminars and exhibition. The forum and trade show were jointly organised by the ECC and EPD. Co-organisers included the Hong Kong Trade Development Council and Hong Kong Women Professionals & Entrepreneurs Association.

#### **Schools**

Schools are a high priority in the EPD's community work. A number of programmes have been organised for pre-schools, primary and secondary schools, universities and vocational institutions.

#### *Waste Separation and Recycling Scheme in Schools*

This programme places bins in schools for collecting waste paper, aluminium cans and plastic bottles for recycling. The bins are funded by the Hong Kong Jockey Club Charities Trust. By the end of 2003, 1 199 schools

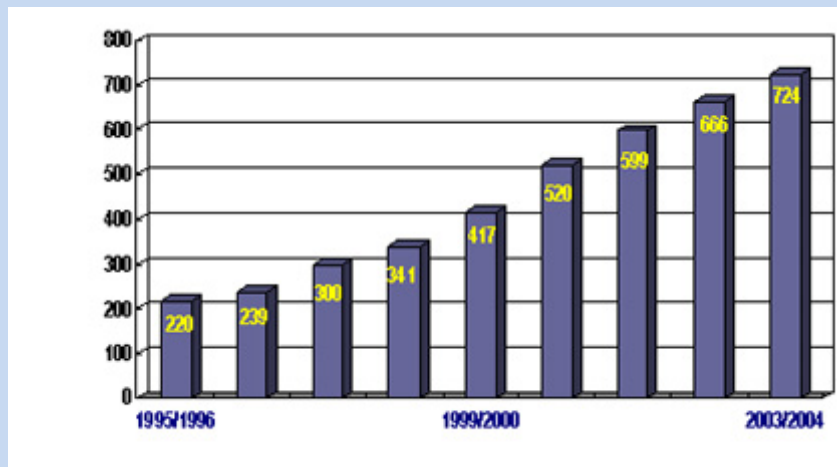
had bins. The remaining 100 or so schools are not participating mainly due to lack of space for the bins. In April the Food and Environmental Hygiene Department started to arrange the collection of recyclable materials from schools. Pre-schools also have a recycling scheme in which miniature bins are provided as a teaching tool. The bins are funded by the Zonta Club of the New Territories and 870 pre-schools participated in 2003.



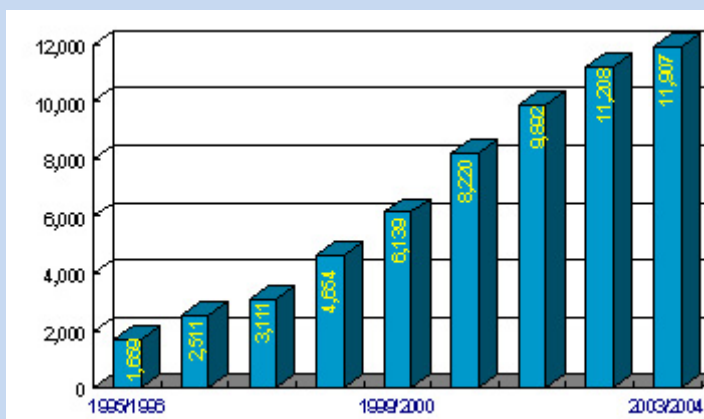
Pre-school pupils learn to use the waste recycling bins.

#### SEAS cum SEPAS

The Schools Environmental Award Scheme (SEAS) cum Student Environmental Protection Ambassador Scheme (SEPAS) has been running since 1995 to cultivate a sense of responsibility for the environment among schools and students. In 2003 more than 11 000 SEPAs participated and organised activities for more than 400 000 students. The environmental protection ambassador programme has also been extended to the Scouts, Girl Guides, Junior Police Call, Lion's Club, Rotary Club, Zonta Club, the elderly and housing estate residents and property management staff. In 2003 an ambassador programme was set up to train staff of the Hang Seng Bank.



Number of Schools Participating in the Schools Environmental Award Scheme since 1995



Number of Student Environmental Protection Ambassadors since 1995

#### Hong Kong Green School Award

The Hong Kong Green School Award was launched in 2000 to encourage

school managers to introduce environmental management systems into their schools and involve the entire school community in green efforts. In 2003 186 schools participated. A green schools website was also set up with a helpdesk. The first Hong Kong Green Pre-School Award was launched and over 110 pre-schools participated.

#### *Business Partners*

Various award schemes have been introduced for young people, organised jointly by the ECC and business partners. The MTR Corporation has sponsored an environmental leadership programme for 72 SEPAs and ambassadors from Scouts, Girl Guides and Junior Police Call. 10 outstanding SEPAs were invited to join the Bangkok environmental study visit in summer 2003 with sponsorship from the AEON Education and Environment Fund. The ECC and Shell Hong Kong Limited have jointly organised an award scheme to recognise the environmental efforts of tertiary students in Hong Kong and youths in the Mainland since 1997-98. An exchange programme is part of the scheme and Hong Kong winners go to the Mainland on study visits and Mainland winners come to Hong Kong for the same purpose. In 2003 the ECC, EPD and Hong Kong Disneyland launched the Jiminy Cricket's Environmental Challenge for primary schools.

### **Other Community Activities**

#### *Environmental Resource Centres*

Environmental Resource Centres have been established in the community to provide people with easy access to information on environmental protection. The first centre opened in Wan Chai in December 1993. For its 10th anniversary, special sessions for visitors were organised and a guidebook was produced on the nearby Wan Chai Green Trail. There is also a centre in Tsuen Wan and a Mobile Environmental Resource Centre which made 112 visits to different parts of Hong Kong in 2003.

The largest Environmental Resource Centre opened in Fanling in August 2003. The 400-square-metre centre hosted more than 12 000 visitors in the first three months of operation.

#### *Community Green Network*

The network involves EPD staff going into housing estates in the early evening to deliver talks and discuss environmental issues with residents and owners' Corporations. A "green desk" may also be brought along at which residents can drop by to ask about any environmental topic. (A green desk also accompanies the Mobile Environmental Resource Centre.) In 2003, 106 talks were held and 126 green desks set up.

#### *Green Leaders*

The Green Leader Programme involves training trainers from among 10 groups of stakeholders. It was completed in March 2003. The programme trained about 10 000 leaders from the transport industry, District Councils, non-government organisations, community and youth groups, teachers and principals, women's associations, the commercial, industrial and business sectors, local green groups and members of Owners' Incorporations and Mutual Aid Committees of housing estates.

#### *Hong Kong Eco-Business Awards*

The Hong Kong Eco-Business Awards honour businesses that have demonstrated a commitment to environmental management. In 2003 entries were received from 139 organisations in the award categories of Green Property Management (Private Housing), Green Office and Best Environmental Reporting. The awards are jointly organised by the ECC, The Chinese General Chamber of Commerce, Hong Kong General Chamber of Commerce and Hong Kong Productivity Council.



- (Top Left)        Display panels being brought to housing estates, featuring tips on green living.
- (Bottom Left)    Mutual aid committee members of a housing estate attend a talk on environmental protection.
- (Top Right)        The Mobile Environmental Resource Centre.
- (Bottom Right)   Children enjoying the facilities aboard the Mobile Environmental Resource Centre.

### Press Releases and Publications

The EPD aims to make environmental information widely available to the general public. Press releases are issued regularly and the Internet is increasingly being used to disseminate information.

- Weekly press releases on water quality at gazetted bathing beaches are issued to the media. The press releases and reports on beach water quality are uploaded on the EPD website.
- Hourly Air Pollution Indexes (API) have been issued since July 1999 via the EPD website and a telephone hotline. Daily API forecasts and hourly API reports are issued to the media.
- Statistics on environmental prosecutions brought by the EPD are released to the media on a monthly basis. This information has also been made available to the general public through the EPD website since August 2003.
- A list of environmental impact assessments (EIAs) that are either in progress or about to start is released quarterly to the media. The EIA reports, and the Director of Environmental Protection's decisions on the reports, are placed on the EPD website.
- Monitoring data for rivers and streams and marine waters are published in separate annual reports, as are air and beach water monitoring data.
- An Environmental Protection Interactive Centre was set up on the website in 2003, where the public can set parameters for the information they are seeking.

In addition, the EPD produced 49 publications in 2003 ranging from publicity and training materials to guidelines on new services and initiatives. Most publications and other information from the department can be viewed on the EPD website <http://www.epd.gov.hk/>.

During the year, seven media visits were organised to the following sites: the Air Quality Monitoring Services Laboratory; a scientific vessel for monitoring water quality, the *Dr Catherine Lam*; the Island West Transfer

Station; the Southeast New Territories Landfill; the West New Territories Landfill; and two workshops for the Trial Recovery Programme for Computers and Electrical Appliances. The EPD also handled 7 323 press enquiries during the year, issued 108 press releases, organised eight press conferences and briefings, and arranged 68 press interviews.



## 5 Our Contribution to the Environment

### 5.6 Professional Development and Research

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The EPD is the largest employer of environmental experts in Hong Kong. It employs 1 239 professional and technical staff with backgrounds in science, applied science, town planning and engineering, and many are active members of learned societies in their fields of expertise. The department contributes to the development of the environmental management profession in Hong Kong and elsewhere by investing in continuous training of staff, collaborating with researchers, providing advice, writing for outside publications and organising conferences, seminars and staff exchanges.

#### Highlights of 2003:

An international seminar on the effectiveness and aesthetics of noise barriers was held in December, jointly organised by the EPD, Highways Department, Hong Kong Polytechnic University and Hong Kong Institute of Acoustics. Speakers came from Australia, Belgium, Britain, Hong Kong and Japan, and more than 160 professionals attended.

A workshop on stormwater pollution management was held in November with officials from Canada and Australia, to share experiences. 60 professionals from the Environment, Transport and Works Bureau, Drainage Services Department and the EPD attended the workshop.

A technical exchange workshop on monitoring techniques for particulate matter and volatile organic compounds was held in February with our Guangdong counterparts. Local, Mainland and overseas experts were invited to participate in the training of EPD and Mainland staff.

Officials from the Shanghai Environmental Protection Bureau and the EPD carried out an exchange programme for the second year running to widen their work exposure and experience, and to foster closer partnership and communication between both jurisdictions.

An interim version of the EPD's Strategic Environmental Assessment Manual was presented at the annual meeting of the International Association of Environmental Assessment in June for comment.

Presentation on Hong Kong's proposed clinical waste control scheme at the National Clinical Waste Conference in Australia in November.

A trial exchange programme between EPD and Highways Department officials began in October, to promote better

**We will ensure through appropriate training and professional development, that every member of our staff has the knowledge and competency to assume their environmental responsibilities and to participate constructively in environmental activities.**

understanding of each other's work.

The EIAO Support Section organised 34 tailor-made workshops on the EIA mechanism for about 820 professionals from government departments, private and public sector corporations, contractors, and professional bodies, between November 2002 and February 2004.

Two PROPECC notes were issued to professionals, setting out guidelines for air quality inside bus and railway compartments.

EPD staff wrote a number of papers on various environmental issues during the year, which were published in professional journals and presented at conferences and workshops.

The EPD continued to serve on the fund-vetting committees of the Innovation and Technology Fund and the Environment and Conservation Fund, which help finance education and research projects in the environmental field.

Nine EPD staff were trained in an Institute of Environmental Management and Assessment (IEMA) Approved Environmental Management System Lead Auditor course in 2003.

EPD professional staff received training for an average of 8.7 days each in 2003. Technical staff recorded an average of 6.8 days each of training. The department will continue to invest in staff development in 2004.

### **Environmental Graduate Training Scheme**

The EPD employs more than 190 professional engineers in various fields. As a leading employer in environmental protection, it recognises the need to train future generations of professional environmental engineers. The department has been certified for the Hong Kong Institute of Engineers' Scheme "A" Training since 1997. 21 environmental engineering graduates have undertaken on-the-job training with the EPD so far, acquiring project management skills, enforcement experience and environmental impact assessment knowledge. 12 of the graduates completed their training in 2003.

### **Workshop for Senior Management**

To further enhance communication across the whole department and to share expertise amongst senior managers, a series of experience-sharing workshops were arranged for our senior staff.

Three workshops were held in 2003 on "Collaboration with Mainland China in Protecting our Environment", "Environmental Considerations in Preventing Disease Outbreak" and "Topical Environmental Issues". They were attended by an average of 123 senior staff, ranking from Senior Environmental Protection Officer to the Director of Environmental Protection. Over 100 Environmental Protection and Assistant Environmental Protection Officers also joined the last workshop.



EPD colleagues join in a discussion panel and share their views and experience in a workshop.



## 6 Our Own Operations

### 6.1 Corporate Environmental Management and Safety & Health Management

#### Environmental Management System

The EPD has developed an environmental management system (EMS) to fulfil internally the goals stated in our Environmental Policy regarding compliance, pollution prevention, minimisation of consumption and other issues. The Director of Environmental Protection is our green manager.

The department's EMS was improved in 2002, following a gap analysis that used ISO 14001 standards as the benchmark. The key improvements were as follows:

- our EMS was merged with the existing safety and health management system.
- a Departmental Environment, Safety and Health Committee (DESHC) was created by merging the Green Management Committee and the Departmental Safety and Health Committee.
- a programme was implemented to allow for systematic assessment and management of the environmental aspects of the department's operations.

The members of the DESHC include representatives from each of the EPD's six divisions, plus staff representatives. The committee is chaired by the head of EPD's Corporate Services Division. The committee is a departmental consultative body on internal operations relating to environmental, safety and health, and it advises the Director and the Director's Meeting on these matters. Its main responsibilities are to review at intervals the departmental environment, safety and health system and to ensure its continuing suitability and effectiveness.

The DESHC is supported by the Environment, Safety and Health Unit (ESHU), which is responsible for developing, implementing and reviewing our EMS and green practices department-wide. This involves auditing the environmental management practices of selected groups within the department. Each group must first complete a self-audit using checklists developed by the ESHU. In 2003, 48 self-audits were completed and the ESHU audited 13 of these groups. In addition, four pilot groups within the EPD have been certified to level 2 of the CISPROS (Continual Improvement Safety Programme Recognition of System) safety and health management system and continued to display an exemplary performance in both green and safety management.

To improve on our EMS and make it more effective, the department has established a system to identify, assess, record and manage the environmental impacts of our internal operations and daily activities. The draft documents for this will be finalised in 2004.

#### Environmental Policy

The EPD's Environmental Policy, first drafted in 1996, was reviewed and rewritten in 2000 to include the department's response to environmental

**We will ensure that all services and programmes offered by the EPD, as well as our own internal operations, are developed and conducted in an environmentally responsible manner.**

**We will implement ISO 14001 environmental management systems to improve continually the environmental performance of our major facilities.**

**We will review our Environmental Policy and objectives/targets to reflect changing internal and external factors, and seek continual improvement in our environmental performance.**

**We are committed to achieving a high standard of safety and health for all our staff and others who may be affected by our activities. We shall provide all necessary resources and employ sound management practices to implement our policy, and provide training, information and guidelines to our staff so that they are competent to perform their duties in a safe and healthy manner. Also, we shall pursue continual improvement in safety and health by regularly reviewing our performance.**

incidents and the development of partnerships in pursuance of sustainable development objectives. The DESHC will review the policy again in 2004.

### **ISO 14001 Certification**

The EPD regards ISO 14001 certification as an opportunity to continue improving our environmental performance and set a good example to other government departments and the private sector.

In 2003 the certification of our Waste Facilities Business Unit was renewed for another three years, having first been certified in 2000. The division also requires contractors of new waste management facilities to obtain ISO 14001 certification as part of their contractual arrangements.

### **Safety and Health & CISPROS Certification**

The EPD was the first government department to receive certification under the Occupational Safety and Health Council's Continual Improvement Safety Programme Recognition of System (CISPROS). The programme was established in 2001 and only two other departments have been certified. In 2004 the EPD will renew its certification. There has been a significant improvement in the incident rate since we have been certified.

**Table Of EPD Incidents Statistics**

<b>Year</b>	<b>No. of Incidents</b>
1999	17
2000	20
2001	12
2002	11
2003	7

The EPD aims to introduce innovations to improve safety and health. In 2002 we joined with the Hong Kong Polytechnic University to develop a purpose-built manhole cover lifter which prevents unnecessary back injuries. The device started being used in 2003.



## 6 Our Own Operations

### 6.2 Minimising the Impacts of Our Operations

#### Waste Facilities

The EPD's major impact on the environment comes from the operation of 29 waste facilities. Contractors are required to operate the facilities to a high environmental standard, through both contractual requirements and statutory controls. Contractors must comply with all applicable environmental ordinances, regulations and emission requirements, and ideally exceed them. They must also monitor air, noise and wastewater emissions from waste facilities, under the supervision of the EPD. Since 1989, a provision has been included in waste facilities contracts to deduct payment for non-compliance with environmental controls.

The Waste Facilities Business Unit renewed the ISO 14001 certification of its environmental management system (EMS) in 2003. This system aims to develop and promote a sustainable waste management strategy and to plan and provide for waste management facilities in Hong Kong. The EPD has also persuaded waste facility contractors to implement similar EMSs to further enhance the environmental performance of these facilities. All 12 restored landfills, the Northwest New Territories refuse transfer station and the Sha Ling Composting Plant have ISO 14001 certification of their EMSs. In 2003, certification was achieved for Sha Tin refuse transfer station, seven transfer facilities in outlying islands, and the Northeast New Territories Landfill.

#### Compliance

There were no environmental prosecutions taken against any of the EPD's waste management contractors in 2003. The contractors also achieved 99.995% compliance with contractual environmental requirements, similar to 2002. Each non-compliance was thoroughly investigated and remedial action instigated.

#### Complaints

27 complaints were received against waste facilities in 2003, concerning odour, noise and fly nuisance. All complaints were dealt with promptly (see 5.3 Effective Enforcement and Emergency Response for details of our complaints response system).

#### Pollution Control

##### *Landfills*

All new landfills are installed with gas extraction systems, and old landfills are being retrofitted. Monitoring is conducted at the boundaries of the landfills to ensure landfill gas does not escape. In 2003, an average 0.5 million m<sup>3</sup> of landfill gas was collected daily, 47 % of which was used to meet nearly all on-site energy consumption. Electricity generators with a total capacity of 6.4 MW have been installed at landfills. In 2003, the EPD was preparing a programme to sell landfill gas from the North East New Territories (NENT) Landfill to public utilities operators.

A construction waste recycling plant has been operating at the South East New

**We aim to avoid, reduce and control pollution arising from our day-to-day working practices. We will require our contractors to adopt and implement sound environmental management systems and pollution control measures.**

**We will provide leadership by complying with not only the letter, but also the spirit of all applicable environmental legislation, standards and regulations, as well as our internal guidelines and procedures. We will endeavour to surpass the applicable environmental legislation, standards and regulations, whenever possible.**

**We have an emergency response system for handling environmental incidents, and are prepared to respond quickly to minimise the damage to the environment.**

Territories (SENT) Landfill since 1995, to sort and recycle construction waste for beneficial reuse and reduce the amount of waste taking up landfill space. At present, the plant recycles about 22 500 tonnes of construction waste monthly, representing 15% of the total construction waste intake at the landfill. The EPD proposed a charging scheme in 2003 to increase recycling and recover the costs of handling construction waste (see 5.2e Environmentally Sound Waste Management and Facilities for details).

#### *Refuse transfer stations*

Refuse transfer stations (RTSs) reduce the environmental impact of transporting waste to landfills. Small refuse collection vehicles (RCVs) deliver waste to the RTSs where it is transferred into bulk waste containers that are taken to landfills either by road or by sea. Each container can accommodate three to five RCV-loads. In 2003, about 1 200 RCV trips to landfills were eliminated each day.

Hong Kong has eight RTSs, located mostly in built-up areas. Ventilation and odour removal systems have been installed to reduce dust and odour from the exhaust air. The Island West RTS is located within a man-made cavern under Mount Davis which not only reduces its visual impact, but takes up less land space.

#### *Chemical Waste Treatment Centre (CWTC)*

The CWTC has been operating on Tsing Yi Island since 1993. Stack gas from the incineration system is scrubbed and a spray dry absorber, activated carbon injection and fabric filter baghouses are used to remove pollutants prior to release into the atmosphere. The gas is monitored continuously to ensure complete combustion and removal of air pollutants. In the event of any problem, waste feed to the incinerator will be cut off automatically.

The ambient air around the CWTC is monitored twice yearly and a measurement of dioxins is carried out monthly. The results are lower than or comparable to levels observed in other large cities around the world. All process residues, including incineration ash, are chemically treated and confirmed by analysis to be stable before being taken to the SENT landfill for final disposal.

Environmentally friendly practices are encouraged by allowing the contractor to keep revenue from the sale of materials recovered from waste. Oil recovered from oily wastewater is blended and used by ocean-going vessels as recovered fuel oil. Copper oxide recovered from waste etchant generated by the electronics industry is sent to overseas smelters to recover the copper. In 2003, 6 200 tonnes of oil and 510 tonnes of copper oxide were recovered by the CWTC.

#### *Laboratories*

The EPD's laboratories (for air, water sciences and microbiology) are operated in a manner that minimises the impact on the environment. The laboratories comply with the legal requirements and statutory licence conditions. Regular maintenance and monitoring programmes are in place to ensure full compliance. In 2003, routine monitoring of effluent discharges and annual monitoring of emissions from fume cupboards indicated full compliance.

#### *Indoor air quality*

The Government introduced an Indoor Air Quality Certification Scheme for Offices and Public Places in September 2003. Certification is open to offices or public places which are served by mechanical ventilation and air conditioning systems and met the indoor air quality (IAQ) requirements specified in the scheme. The first premises to receive an Excellent Class IAQ Certificate was the EPD's Indoor Air Quality Information Centre. By the end of 2003, 4 other EPD premises including Southorn Centre, Revenue Tower, Tsuen Wan Government Offices and the Wanchai Environmental Resource Centre were awarded with Good Class IAQ Certificates. The goal is to have all EPD premises certified.



(Left) The EPD Indoor Air Quality Information Centre is the first premises awarded an Excellent Class IAQ Certificate.

(Right) A sample of the Excellent Class Indoor Air Quality Certificate.

#### *Field work*

Only non-toxic dye is used to trace pollution sources, to minimise the environmental impacts of investigations. Field samples are sent to the laboratories for appropriate action. Safety guidelines are issued to all field staff who are trained in the handling of hazardous materials.

### **Emergency Response**

The EPD has internal emergency response plans for its operations, in particular waste facilities and laboratories. At landfills, the plans cover predictable events such as the unavailability of certain landfills or refuse transfer stations due to power failure, as well as road blockages arising from traffic accidents, congestion, chemical waste spills, etc.

Four emergency drills were carried out at the CWTC in 2003. The EPD requires the CWTC contractor to carry out at least one drill on marine incidents every year.

For EPD laboratories, no incidents were reported in 2003.

### **Measures Adopted to Prevent Pollution from EPD's Laboratories**

#### *Legal measures*

All necessary licences and permits under the law (e.g. Water Pollution Control Ordinance (WPCO), Waste Disposal Ordinance (WDO)) are obtained and the stipulated conditions are strictly adhered to. The EPD encourages contractors to exceed the legal requirements wherever possible.

#### *Air pollution*

Emissions from fume cupboards and safety cabinets are scrubbed or filtered as required to remove pollutants before release into the atmosphere. Laboratories are installed with exhaust hoods which operate round the clock to dilute and extract any emissions of calibration gases (such as carbon monoxide, sulphur dioxide and nitrogen oxides) to roof level for discharge.

#### *Water pollution*

The EPD's laboratory sinks are fitted with buffer tanks to prevent the accidental discharge of unsuitable substances into the sewers. A sink used for handling asbestos is also fitted with a filter to remove asbestos from wastewater.

#### *Monitoring*

Emissions from fume cupboards and discharges from sinks are monitored regularly to ensure they comply with the required standards in 2003.

#### *Hazardous waste*

Chemical waste is properly treated and disposed of by the CWTC contractor. Biological waste is disinfected and disposed of in accordance with World Health Organisation guidelines. A licensed collector is engaged to deliver asbestos samples from the air laboratory to the SENT landfill for disposal.

#### *Emergencies*

Emergency spill kits are provided in all EPD laboratories and staff are trained to deal with accidental spills. The general procedures for handling chemical spillage/leakage are documented in the laboratory environmental and safety manuals.

#### *Audits*

Environmental audits of EPD laboratories are carried out regularly by laboratory staff and supplemented with annual audits as required by the EPD's Environment, Safety and Health Unit.



## 6 Our Own Operations

### 6.3 Greener Office

#### Working towards a Paper-less Office

The Environment, Transport and Works Bureau has requested all government bureaux and departments to reduce paper consumption by an average of 2.5% a year, from fiscal year 2003/04 to 2006/07, representing an overall 10% reduction. Given that the EPD has reduced paper consumption by more than 11% since 1998, we have difficulty in reaching this target in the current calendar year, although we will try to catch up on this as closely as possible through additional paper saving initiatives. In 2003 we reduced paper consumption by 0.6% and consumed 15 455 reams of photocopy paper, compared with 15 548 reams in 2002.

New initiatives launched in 2003 included:

- A quota and trading system to encourage paper saving on a divisional basis and more sharing of documents, rather than photocopying.
- An electronic catalogue system for the department's library, through which library items can be reserved and renewed.
- The suspension of subscriptions to hard copies of newspapers, except for the Media Relations Unit. On-line services have been subscribed to instead.
- A requirement that all requests for purchase of computer and related items be submitted and approved electronically.
- The setting up of an Information Management Committee to oversee the dissemination of information internally and externally through the EPD's IT infrastructure.

**We aim to exercise the principle of Reduce, Reuse and Recycle in our consumption of materials and to make efficient use of natural resources and energy in all our operations.**

**We will avoid, reduce and control environmental pollution arising from our day-to-day working practices.**

**We require our contractors to adopt and implement sound environmental management systems and pollution control measures.**

Year	1998	1999	2000	2001	2002	2003
Paper (Reams)	17 411	16 211	16 300	15 736	15 548	15 455
A. % reduction vs 1998 figure	-	6.9%	6.4%	9.6%	10.7%	11.2%
B. Total paper saved since 1998 (reams)	-	1 200	2 311	3 986	5 849	7 805

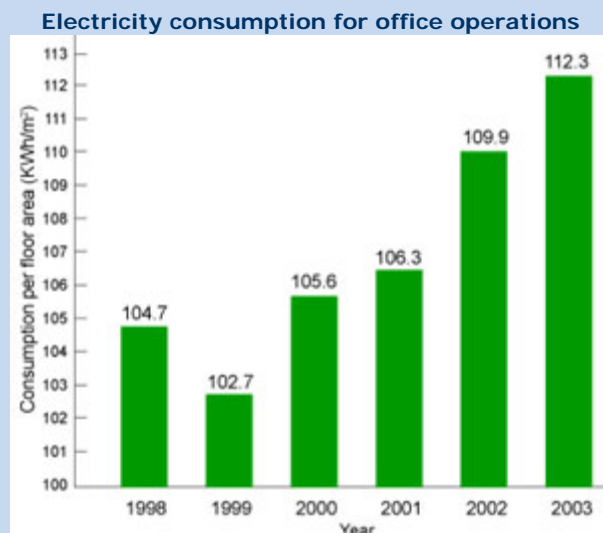
#### Reducing Energy Consumption

The Environment, Transport and Works Bureau has requested all government departments to reduce electricity consumption by 1.5% per year over four years from fiscal year 2003/04, representing a total 6% reduction. The EPD will have difficulty meeting this target. We can reduce energy consumed by lighting, but many of our offices are in buildings with central air-conditioning over which we have little control. Through building management committees, the EPD, Government Property Agency and other departments sitting on the committee have agreed to reduce air-conditioning in offices in the early mornings and late afternoons to reduce energy consumption. In certain buildings, where the situation permits, some lifts have been turned off

in non-peak hours to save electricity (for example, Revenue Tower). The results of these initiatives will be followed up in the next report.

The Departmental Environment, Safety & Health Committee has resolved to step up energy saving measures through further staff awareness and action programmes. Many EPD staff who work in cellular rooms have voluntarily switched off overhead lights and now use table lamps, which consume less energy. In a pilot study, half of the lights in four corridors of Revenue Tower, totalling about 200 tubes, have been switched off without compromising occupational safety and health standards. An energy audit of other offices is also underway.

In Island West Transfer Station, where the sole occupant is the EPD, an energy reduction scheme was implemented in 2003. Electricity consumption was reduced by 4% from 683 680 KWh in 2002 to 655 920 KWh in 2003.



### **An Experiment in Saving Energy**

Air-conditioning systems are our major consumers of energy. The Energy Efficiency Office of the Electrical and Mechanical Services Department has observed that further improvement in energy saving is possible through the use of variable speed drives (VSD) instead of inlet guide vanes (IGV) in the air-handling unit (AHU) on each floor. The EPD took this suggestion on board and installed VSDs in the air-handling units of the 25th to 28th floors of Southorn Centre. The installation was completed in March 2003.

The VSDs ran parallel with the existing system for six months from April to September 2003 to compare the performance in energy efficiency of the IGVs and the VSDs. Separate meter-reading was taken with and without the operation of the VSDs during the trial period. Based on an analysis by the Architectural Services Department, savings in energy consumption were 27.86% on average when the VSDs were in use. Given the encouraging results, EPD invited the Government Property Agency to consider extending this experimental project to other floors of Southorn Centre or other government buildings if resources permit.

### **Greener Transport**

A number of measures have been introduced to control emissions and lower fuel consumption from the department's fleet. All EPD vehicles – mainly medium vans, saloons, and motorcycles – run on petrol or liquefied petroleum gas, rather than the more polluting diesel fuel. A non-idling policy is in place to reduce air pollution.

Over the years, all EPD groups and offices have been required to combine trips whenever possible. A transport booking system is in place to log the mileage and number of passengers for each car trip. The information

gathered facilitates more flexible deployment of vehicles amongst groups. Riding on the success of reducing the departmental fleet from 61 vehicles to 56 in 2002, one more van has been identified in 2003 to be surplus to the requirements of the department. The van is now serving as a stop-gap measure before several replacement vehicles are delivered to the department. In due course, it will be returned to the Government Logistics Department for deployment to other departments. The departmental fleet will then be further reduced from 56 to 55 vehicles.

### **A Better Office Environment with Good Indoor Air Quality**

Good Indoor Air Quality (IAQ) can enhance the comfort level of occupants, increase worker productivity and attract more tenants or customers. With this in mind, the voluntary IAQ Certification Scheme for offices or public places was launched in mid-September 2003. Owners or property management companies of buildings or premises that are served by mechanical ventilation and air-conditioning systems may participate in the scheme.



**Publications and pamphlets on indoor air quality.**

As a responsible organisation and caring employer, the EPD is acting to ensure our facilities and offices meet the IAQ standards under the scheme. In 2003, we had one office awarded with an Excellent Class certificate and four others with Good Class certificates. They included the IAQ Information Centre, Southorn Centre, Revenue Tower, Tsuen Wan Government Offices, and the Wanchai Environmental Resource Centre. IAQ measurements in accordance with the requirements of the scheme will be conducted at our remaining 11 locations by phases.



## 6 Our Own Operations

### 6.4 Staff Awareness, Training and Participation

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The EPD provides training opportunities for all its staff. Formal environmental management training was introduced for existing staff in 1997 and all new staff are also briefed on the subject. In 2003, 55 staff attended 2 in-house seminars on Environmental Management Systems and 20 staff attended courses related to environmental management organised by external organisations. Another 227 staff attended 9 in-house continuous professional development training programmes organised by the Human Resources Development Unit. The training consisted of talks on environmental subjects by experienced staff members and visits to EPD's facilities, the Hong Kong Wetland Park and the Hoi Ha Wan Marine Park.

To promote environmental awareness among family members of our staff and help them understand more about EPD's operations, the Staff Recreation and Social Committee organised the Chinese White Dolphin Watch, Mai Po Boardwalk Tour and Tsim Bei Tsui Eco Tour in 2003 for staff and their families.

Moreover, our colleagues are encouraged to contribute green ideas through the Departmental Staff Suggestion Scheme. Winning proposals will be awarded with cash prizes in addition to certificates of commendation, or only the certificates.

Apart from the Green Manager Scheme, we have initiated a mobile phone batteries recovery scheme in May 2002 and a trial plastic bag recovery scheme in August 2002 at our Southorn Centre Office. Batteries and plastic bags have been regularly collected and delivered to recyclers for recycling. By the end of 2003, 103 batteries and about 50 kg of plastic bags had been recovered.

**We will ensure through appropriate training and professional development, that every member of our staff has the knowledge and competency to assume their environmental responsibilities and to participate constructively in environmental activities.**

**We will ensure that all our staff are aware of our Environmental Policy, that they will be able to provide detailed information about our Policy and our initiatives to our stakeholders on their particular areas of concern.**



## 7 Progress on Year 2003 Targets

### Major Initiatives under EPD's programme:

Reporting Area	Targets for 2003	Progress in 2003
Contribution to Strategic Decision-making	To prepare a strategic environmental assessment (SEA) manual to provide guidelines and technical advice on SEA.	An interim SEA Manual had been published to seek practitioners' views.
	To produce a CD-ROM to capture the knowledge and experience shared at the "Conference on Reshaping Environmental Assessment Tools for Sustainability".	The CD-ROM was published in June 2003.
	To update various environmental databases for the Computer-aided Sustainability Evaluation Tool (CASET) in 2003.	CASET indicators were updated in August 2003.
Prevention and Mitigation through Environmental Impact Assessment	To launch an additional feature in the EIAO Website to enable searching of environmental monitoring and audit information of major development projects by geographic areas or by nature of the project in October 2003.	Additional features including web-based EM&As, project websites and EIA & monitoring information, were added to the website to enhance user-friendliness when searching for environmental monitoring and audit information of major development projects.
Better Air Quality	To continue the large-scale retrofit programme for pre-Euro standard diesel vehicles over 4 tonnes.	By end 2003, over 15 000 pre-Euro diesel vehicles over 4 tonnes had been retrofitted with a particulate removal device.
	To enforce a regulation to require the installation of a particulate reduction device in pre-Euro standard diesel vehicles up to 4 tonnes when their licences are renewed, subject to approval by LegCo.	A regulation for mandatory installation of a particulate reduction device for vehicles up to 4 tonnes became effective on 1 Dec 2003.

To proceed with the continued enforcement of the perchloroethylene regulation, including the vetting of new dry-cleaning machines for inclusion in the approval list.

Continued processing applications on new models of dry-cleaning machines using perchloroethylene in their operations, and kept abreast of new and innovative developments in the area of dry-cleaning.

To launch the voluntary Indoor Air Quality Certification Scheme for Offices and Public Places in mid-2003.

The Indoor Air Quality Certification Scheme was opened for application in September 2003.

To implement the following tasks, which were agreed by the special panel on Pearl River Delta Air Quality Management and Monitoring set up under the Hong Kong – Guangdong Joint Working Group on Sustainable Development and Environmental Protection:

- To draw up a regional air quality management plan in 2003;
- To establish and operate a regional air quality monitoring network consisting of a total of 16 stations by 2004;
- To compile a 2001 regional emissions inventory in 2003;
- To compile a handbook on preparing a regional emissions inventory in 2003;
- To conduct a technical exchange workshop on monitoring techniques for particulate matters and VOCs in February 2003;
- To evaluate the feasibility of establishing an emissions trading pilot scheme in the energy sector in the Pearl River Delta Region by end of March 2003.

- Prepared a regional air quality management plan which was subsequently endorsed by the Joint Working Group;
- Developed a joint air quality monitoring network for operation to start in 2004;
- Drafted a 2001 regional emissions inventory;
- Compiled for release in 2004 a handbook on the methods for assessing the quantities of air pollutants emitted from different pollution sources in the region;
- Conducted technical exchanges and workshops on topics such as air quality monitoring and pollution control;
- Assisted the Government in exploring the feasibility of cross-boundary emissions trading schemes.

To finalise and issue the practice notes for managing air quality in air-conditioned public transport facilities.

The practice notes for managing air quality in air-conditioned public transport facilities (buses and railways) were issued in late 2003.

	To introduce a regulation to require petrol filling stations to install vapour recovery systems to control emission of petrol vapour during vehicle refueling by end 2003 and to implement the regulation in early 2004.	Oil companies and the Legislative Council were consulted on the draft proposal. Draft regulation is now being finalised.
	To prepare a proposal to amend the Ozone Layer Protection Ordinance to ban the import of products containing CFCs, tentatively by 2005.	Policy support had been received for a CFC management plan to ban the import of products containing CFCs by phases from 2006, and expand the scope of products under control.
Quieter Environment	To review 200 planning schemes and strategic proposals to minimise noise problems for about 46 000 people.	Reviewed 182 planning schemes to benefit 41 000 people.
	To review the eligibility of 20 existing roads for inclusion in the programme to retrofit barriers.	Reviewed the eligibility of 20 existing roads to retrofit barriers.
	To support the investigation studies/design work for retrofitting barriers for Phases 1 and 2 of the retrofitting programme, the engineering feasibility studies for Phase 3 and the work for resurfacing the identified road sections.	Supported investigation studies/design work/ engineering feasibility studies for retrofitting barrier projects and the work for resurfacing the identified road sections.
	To issue codes of practice to guide the industry on good management practices to prevent violation of the Noise Control Ordinance.	Consulted the industries and the Legislative Council Environmental Affairs Panels on the draft codes of practice, and are following up the concerns raised.
	To conduct a study on noise levels in Hong Kong.	Commenced the first phase of the study on noise levels in Hong Kong.
Better Water Quality	To finalise the report on the 2002 EPD-State Oceanic Administration (SOA) marine monitoring method validation work and develop a plan to facilitate Hong Kong's participation in the National Marine Environment Monitoring Network.	The EPD-SOA marine monitoring method validation report was finalised. A restructuring of the National Marine Environment Monitoring Network was ongoing and Hong Kong's participation will hinge on its outcome.

To complete the Harbour Area Treatment Scheme (HATS) studies and consult the community on the way forward.

Progress on the studies was delayed by the outbreak of SARS, which affected the availability of the consultant's foreign staff in Hong Kong. Nevertheless, key findings were endorsed by the HATS Monitoring Group in December. These findings are being compiled into a final report for public consultation, to be launched in the second quarter of 2004.

To introduce the new effluent standards into Legislative Council for negative vetting subject to decision by our policy bureau.

The policy bureau requested us to collect additional information for their decision-making process. The information was forwarded to them in November 2003.

To propose a biological indicator monitoring strategy for the marine environment.

In 2003, a study on the development of a biological indicator system for monitoring marine pollution was completed. This study has provided the EPD with a sound scientific basis for the formulation of strategies and plans for territory-wide pollution monitoring using biological indicators.

To prepare a plan for monitoring pollution by toxic substances in the marine environment.

An initial proposal on the monitoring of toxic substances in Hong Kong's marine environment was prepared following the completion of the toxic substances study.

To complete the on-going sewerage master plan (SMP) reviews.

All current sewerage master plans (SMPs) reviews were completed in 2003.

To commission a study on urban stormwater pollution, focusing on the West Kowloon area, and to recommend measures for tackling urban stormwater pollution problems.

An in-house investigation into stormwater pollution, focusing on Mong Kok, was commenced in October 2003. The aim is to gather more data on the nature and extent of pollution to the stormwater system and to facilitate a policy decision on the way forward in tackling this pollution issue.

To work out a proposal for an effluent reuse demonstration scheme in North District area.

The Scoping Study for a pilot effluent re-use scheme in North District was completed at the end of 2003.

	<p>To carry out preparatory work for the first progress review of the Deep Bay Water Pollution Control Joint Implementation Programme in collaboration with the Shenzhen Environmental Protection Bureau.</p>	<p>In end 2003, Shenzhen Environmental Protection Bureau and EPD reached an agreement on an overall co-operation framework and the establishment of a joint study team to implement the first joint review. Endorsement of the framework by the Mirs Bay &amp; Deep Bay Areas Environmental Management Special Panel was expected in January 2004.</p>
	<p>To formulate a Mirs Bay regional water quality management plan jointly with Shenzhen authorities.</p>	<p>The Mirs Bay Water Quality Regional Control Strategy Study was completed in March 2003 and the recommended water quality management plan was endorsed in December 2003 by the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection.</p>
<p>Environmentally-Sound Waste Management and Facilities</p>	<p>To submit legislative proposals to tighten up controls on illegal disposal of waste, to the Legislative Council for consideration.</p>	<p>An amendment bill "Waste Disposal (Amendment) (No.2) Bill 2003", which provides for construction waste charges and tighter controls on illegal waste disposal, was submitted to the LegCo in Dec 2003 for first reading and second reading. A Bill Committee is to be formed to discuss the Bill.</p>
	<p>To prepare a draft legislative framework to support waste reduction measures.</p>	<p>The framework will be drafted once the waste management options for the relevant waste types are agreed.</p>
	<p>To continue to implement on-going and new initiatives under the Waste Reduction Framework Plan.</p>	<p>Good progress continued to be made on waste separation programmes, the Wastewi\$e Scheme, land allocation for the recycling industry, and the reuse of construction and demolition materials.</p>
	<p>To produce the first draft Waste Management Plan.</p>	<p>The first draft has been produced for internal discussion.</p>

To submit the draft bill on construction waste charging scheme for the Legislative Council's consideration.

Progress as reported in the first bullet of this Reporting Area. We aim to implement the charging scheme in mid 2005.

To commission a pilot scheme to recycle waste tyres.

We commenced the pilot scheme to recycle waste tyres collected at the Kowloon Bay Transfer Station in April 2003. For the first nine months, about 2 100 tonnes of waste tyres were recovered. The contractor used waste tyres collected to produce a lightweight geo-construction material which has been applied as filling material for road sub-base and slope. Compared with landfill disposal, the pilot programme has generated a saving of about HK\$1.5 million in this first nine months.

To complete a pilot scheme at the North West New Territories Refuse Transfer Station for recycling electrical and electronic appliances.

Pilot scheme extended to December 2004.

To continue assessment of submissions received under the Expression of Interest (EOI) on Waste Management Facilities exercise, and to develop integrated waste management facilities options based on the findings.

Assessed the submissions received under the EOI on Waste Management Facilities. Formulated several waste management technology options for further consideration by the Advisory Group.

To complete a study to examine the best financial arrangements and financial contract terms for the development and management of a recovery park by May 2003.

The study to examine the appropriate development / management arrangement for the Recovery Park was substantially completed in 2003.

To consider other possible alternative uses of the Ngau Tam Mei Composting Plant (NTMCP) site.

Various alternatives considered. The possible upgrading of the NTMCP site for treatment of livestock waste was under consideration.

<p>To complete the construction of the grass pitch at the former Sai Tso Wan Landfill and open the facility for use by the public in March 2004.</p>	<p>The construction of the Sai Tso Wan Recreation Ground on the former Sai Tso Wan Landfill will be completed in March 2004 and the facility is expected to be open to the public in March/April 2004.</p>
<p>To commission the Ma Wan Refuse Transfer Facility.</p>	<p>Commissioned in March 2003.</p>
<p>To test out a new mode of waste separation by implementing the Dry and Wet Waste Separation Pilot Programme in four housing estates in Eastern District.</p>	<p>The 12-month pilot Dry and Wet Waste Separation Pilot Programme in four participating estates in the Eastern District commenced in March 2003. We will conduct a review of the pilot scheme in early March 2004.</p>
<p>To commission feasibility studies on extension schemes for WENT and NENT Landfills.</p>	<p>Consulted the EIA subcommittee of the Advisory Committee on the Environment on the findings of the Landfill Extension Study in December 2003. Following consultation with the relevant District Councils, the feasibility studies for the three strategic landfills will be commissioned in mid-2004.</p>
<p>To complete a review on the costs and benefits of the refuse transfer station network.</p>	<p>The Draft Final Report of the review was issued. The Final Report is being prepared.</p>
<p>To commence tendering for the provision of clinical waste treatment facilities in the Chemical Waste Treatment Centre.</p>	<p>The draft tender documents were cleared by Legal Advisory Division in September 2003. A tender evaluation proposal was finalised and endorsed by ETWB and Central Tender Board in July 2003. We are now pending direction from ETWB to invite tenders.</p>
<p>To complete the Technical Feasibility Statement of the sludge treatment facilities and to start a feasibility and EIA study for the facilities.</p>	<p>The Technical Feasibility Statement was approved by ETWB on 11.7.2003 and the consultant selection for the feasibility and environmental studies has started.</p>
<p>To award the contract for the design, construction and operation of a low-level radioactive waste storage facility.</p>	<p>The contract was awarded on 23 July 2003.</p>

Effective Enforcement and Emergency Response

To develop and implement a departmental prosecution policy and enhance transparency to the public.

EPD had published its prosecution policy on its website to enhance transparency (see [http://www.epd.gov.hk/epd/english/news\\_events/current\\_issue/current\\_policy.html](http://www.epd.gov.hk/epd/english/news_events/current_issue/current_policy.html)), and to make the prosecution process more understandable to the public.

To develop and implement a new Complaint Management Policy to streamline the handling of pollution complaints.

With the setting up of the Customer Service Centre, about 40% of complaints and 98% of enquiries were successfully resolved over the phone. It has become an ongoing job for LCD to review and streamline the complaint handling process, with the view to delivering a more effective and efficient service.

To explore the use of portable digital assistance in routine enforcement work and complaint investigation with a view to enhancing effectiveness.

A study was commissioned to study, develop and implement a mobile computing solution for the enforcement process with a view to enhancing its effectiveness & efficiency.

Building Partnerships

To develop guidebooks, train-the-trainer VCDs and websites on good practices for property managers and the construction and vehicle repair trades.

Guidebooks and train-the-trainer VCDs were distributed to the trades on how to control pollution and comply with environmental laws. Dedicated websites on good practices for property managers and the construction trade were also developed.

To enhance the Restaurant Help Desk service by including Meet-the-Advisor services to provide technical advice on specific problems and to disseminate new technologies/green practices.

The Restaurant Help Desk had been extended to provide a Meet-the-Advisor service to the trade and to disseminate technical information/green practices.

To develop a partnership with clinical waste stakeholders through workshops and seminars so as to enable them to comply with the new clinical waste legislation.

An annual performance audit exercise was carried out on each existing commercial clinical waste collector in 2003. To help raise the standard of operation in preparation for the proposed regulatory control, the trade was given free professional advice on improvement areas identified in the exercise.

A talk on safe management of clinical waste was jointly organised with the Occupational Safety and Health Council.

To hold eight Environmental Impact Assessment (EIA) Ordinance User Liaison Group meetings to share experiences and discuss how the EIA process can be improved.

EIAO User Liaison Group meetings were held in 2003.

To issue seven Guidance Notes to provide guidelines on good practices on environmental impact assessment.

Seven Guidance Notes were prepared and circulated to User Liaison group members for comment.

To deliver more EIA training workshops for partnership building and for enhancing understanding of the EIA mechanism.

A total of 23 workshops were held for 550 participants from both the public and private sectors.

To continue the EIA Helpdesk Hotline to advise on EIA matters.

We received 107 enquiries from government engineers, consultants, contractors and the public.

To promote the EIA training and capacity building programme to the private sector.

In addition to government departments, we provided workshops to private and public sector corporations, contractors and professional bodies.

To set up a Property Management Partnership Liaison Group as a one-stop forum for discussing and resolving environmental issues, including waste reduction, which are of concern to the property management sector.

Workshops were organised with representatives from large property management companies and their subsidiaries to promote green practices and environmental compliance.

	To deliver more training seminars or workshops for the partnership trades in facilitating their environmental compliance.	Organized and delivered 45 seminars/training workshops on environmental protection to over 4 600 members of the trades (construction, restaurant, property management and vehicle repair) under the partnership programmes.
Environmental Awareness and Education	To implement Phase VII of the Waste Recycling Campaign in Housing Estates in 2003 to recruit 100-150 more housing estates to participate.	1 333 housing estates had joined the Waste Recycling Campaign in Housing Estates (Phase VII) which was launched in April 2003.
	To invite 700 schools and over 12 000 students to join the Student Environmental Protection Ambassador Scheme in 2003.	724 schools and over 11 907 students joined the Student Environmental Protection Ambassador Scheme in 2003.
	To conduct 45 training workshops to train 900 stakeholders to be green leaders in the first quarter of 2003. To complete the Green Leader programme by end of March 2003.	70 training workshops were held in the first quarter of 2003 training up more than 2 250 stakeholders to be green leaders. The Green Leader programme was completed in March 2003.
	To conduct six environmental education training workshops for 300 teachers in 2003.	25 environmental education training workshops for 535 teachers were held in 2003.
	To arrange 110 community visits by the Mobile Environmental Resource Centre in 2003.	112 community visits by the Mobile Environmental Resource Centre were conducted in 2003.
	To invite 100 more pre-schools to join the Waste Separation Scheme for Pre-schools in 2003.	Over 870 pre-schools joined the Waste Separation Scheme for Pre-schools in 2003, up from 680 in 2002.
	To organise 75 environmental awareness training sessions for civil servants in 2003-04.	135 environmental awareness training sessions were organised for over 2 000 civil servants in 2003.
	To arrange 120 community outreach visits by Green Desk in 2003-04.	126 community outreach visits by Green Desk were arranged in 2003.

## Initiatives to Strengthen the Environmental Performance of Our Internal Operations:

Reporting Area	Target for 2003	Progress in 2003
Corporate Environmental Management	To complete the review of environmental aspects of EPD's internal activities.	Review completed. Three activities i.e. laboratory work and disposal of polluted/chemical/biological samples, and office consumption of paper and electricity were found to have potential significant impacts on the environment. It was also found that sufficient precautionary measures and guidelines were in place to safe guard legal compliance of the first two items, and that proactive initiatives had been devised to save paper and energy.
Minimising the Impacts of Our Operations	To continue close supervision of our waste facilities' contractors aiming at full compliance with both legal and contractual environmental requirements.	On going. Achieved full compliance with legal and 99.995% compliance with contractual environmental requirements.
	To achieve full compliance with legal and departmental environmental requirements in our laboratories and field operations.	Achieved full compliance with legal and departmental environmental requirements.
Greener Office	To further reduce photocopy paper consumption by 2.5% in accordance with a government-wide voluntary paper saving target.	Actual photocopying paper consumption reduced by 0.6%. Note that the department has already reduced consumption by 11.2% since 1998.
	To implement further energy saving measures in conjunction with an energy audit.	About 200 T-8 lighting tubes were permanently turned off in a pilot energy audit. In Island West Transfer Station, electricity consumption was reduced by 4% from 683 680 KWh in 2002 to 655 920 KWh in 2003.
	To further pursue green transport arrangements and reduce reliance on Government vehicles.	All EPD vehicles run on petrol or liquefied petroleum gas rather than the more polluting diesel fuel. A non-idling policy is in place to reduce air pollution. To reduce reliance on Government vehicles, EPD has decided to remove one more van from the departmental fleet in 2003.

	<p>To extend the e-request arrangement for purchasing equipment/consumables, and to phase out hard copy submission.</p>	<p>All requests for computer equipment and related items were raised and approved electronically.</p>
<p>Staff Awareness, Training and Participation</p>	<p>To explore wider use of mobile computing in field work and operations.</p>	<p>Mobile technology was adopted for green and safety audit of EPD offices. (See also third bullet under Reporting Area "Effective Enforcement and Emergency Response")</p>
	<p>To organise workshops and visits for all staff.</p>	<p>75 staff attended seminars on environmental management related courses.</p>
	<p>To promote staff participation and contributions to complement government-wide waste reduction initiatives.</p>	<p>Green/recycling corners were set up in all offices to reduce/recycle waste e.g. paper, printer ink cartridges, plastics and batteries.</p>



## 8 Targets for 2004

### Major Initiatives under EPD's programme:

Reporting Area	Targets for 2004
Contribution to Strategic Decision-making	To launch a CEM Cyber Helpdesk for Environmental Performance Reports in 2004 to help all government bureaux/ departments to prepare and improve the quality of their reports.
	To complete a study to consolidate environmental management information with ISO 14001 EMS templates for the SMEs in the electrical/electronic sector and the construction sector in Hong Kong.
	To continue promoting Strategic Environmental Assessment (SEA) in the region and take into account views from practitioners' on the interim SEA Manual published in 2003.
Prevention and Mitigation through Environmental Impact Assessment	To organise a launching seminar for Continuous Public Involvement (CPI) to promote the importance of CPI to various stakeholders.
	To launch a web-based e-learning platform for the public to better understand the EIA mechanism.
Better Air Quality	To complete the retrofit programme for pre-Euro standard diesel vehicles over 4 tonnes.
	To continue the promotion of good indoor air quality (IAQ) and review what improvements should be made.
	To put into operation a joint air quality monitoring network in the Pearl River Delta Region.
	To conduct technical exchanges with Guangdong on air quality monitoring.
Quieter Environment	To review 180 planning schemes and strategic proposals to minimise noise problems for about 41 000 people.
	To continue supporting investigation studies/design work for retrofitting barriers in the retrofitting programme, and the engineering feasibility studies and work for resurfacing identified road sections.
	To put into operation the new provision of the Noise Control Ordinance to hold directors of body corporate liable for noise offences by their companies.

	<p>To develop an interactive system for enhancing the public's appreciation of noise levels from different sources.</p>
<p>Better Water Quality</p>	<p>To implement by phases a bioindicator monitoring programme for tracking the effects of pollutants on the ecological health of the marine environment in Hong Kong.</p>
	<p>To prepare and initiate a programme for monitoring toxic substances in Hong Kong's marine environment.</p>
	<p>To work out an agreed plan with the Shenzhen Authority to conduct the first review of the Deep Bay Water Pollution Control Joint Implementation Programme for improving the water quality of Deep Bay.</p>
	<p>To complete the in-house investigation on stormwater pollution for Mong Kok in early 2004. To commence the planned study on urban stormwater pollution for West Kowloon subject to decision by our bureau.</p>
	<p>To initiate preparatory work for an effluent re-use demonstration scheme in North District subject to decision by our bureau.</p>
	<p>To support the policy bureau in the review of priorities and scope of recommended projects in the sewerage programme.</p>
	<p>To pursue the high priority recommendations of the various SMP reviews with DSD.</p>
	<p>To issue updated guidelines for sewerage planning and the carrying out of sewerage impact assessment by project proponents.</p>
	<p>To complete community consultation on the trials and studies for the Harbour Area Treatment Scheme (HATS), and identify the way forward for implementing HATS.</p>
	<p>To introduce the new effluent standards into the Legislative Council for negative vetting subject to decision by our policy bureau.</p>
<p>Environmentally-Sound Waste Management and Facilities</p>	<p>To implement the construction waste charging scheme by 2005 upon passing of the Bill by the LegCo in 2004.</p>
	<p>To commission the Sai Tso Wan Recreation Ground in March/ April 2004.</p>
	<p>To produce the second draft Waste Management Plan by incorporating results of the Expressions of Interest exercise and Design-Build-Operate Review.</p>
	<p>To commission feasibility studies on extension schemes for the three strategic landfills.</p>

	To finalise the landfill gas selling arrangement for the North East New Territories Landfill.
	To complete a pilot scheme to recover 22 000 used computers and electrical and electronic equipment for reuse and recycling by December 2004.
	To submit the EIA and landuse rezoning reports under the EIAO and Town Planning Ordinance for the Recovery Park project by the third quarter of 2004.
	To complete a regulatory impact assessment to assess the costs and benefits of employing product responsibility schemes to manage waste tyres and batteries by the second quarter of 2004.
	To commence in February 2004 and complete by the first quarter of 2005 a study on food waste management.
	To continue the pilot scheme to recycle waste tyres.
	To evaluate waste management technology options and to consult the public on the technology options for development of integrated waste management facilities.
	To proceed with the legislative programme for the control of the disposal of clinical waste.
	To start consultation with stakeholders on the draft Risk Based Remediation Goals for contaminated land management.
Effective Enforcement and Emergency Response	To set up a system and collate information on up-to-date powered mechanical equipment to assist the construction trade in preparing Construction Noise Permit applications.
	To develop and implement web-based application of the GIS-based database system, to enhance the response to pollution complaints.
	To develop and implement a mobile computing solution for routine enforcement work.
	To develop and implement an integrated database solution for streamlining multi-media enforcement workflow and data management.
Building Partnerships and Customer Service	To continuously raise the operational standard of all existing clinical waste collectors in 2004 to the level required in the upcoming regulatory control.
	To continue reaching out proactively to private and public sector proponents, contractors, consultants and professional bodies in order to enhance their understanding of the EIA Mechanism. To further collaborate with professional bodies to reach out to professionals in the private sector.

	To distribute the Training Manual on the EIA mechanism to promote dialogue.
	To co-organise the "Green Garage Election" with the vehicle repair trade to recognise environmentally responsible vehicle repair workshops and promote further improvement in environmental compliance.
	To launch the licensing module of the Environmental Protection Interactive Centre (EPIC) in promoting e-services and on-line fee payment for licence application.
Environmental Awareness and Education	To implement Phase VIII of the Waste Recycling Campaign in Housing Estates in 2004 to recruit 40-60 more housing estates to participate.
	To invite 750 schools and 12 000 students to join the Student Environmental Protection Ambassador Scheme in 2004.
	To conduct 14 environmental education training workshops for 420 teachers in 2004.
	To arrange 110 community visits by the Mobile Environmental Resource Centre in 2004.
	To organise 50 environmental awareness training sessions for civil servants in 2004.
	To arrange 120 community outreach visits by Green Desk in 2004.

#### Initiatives to Strengthen the Environmental Performance of Our Internal Operations:

Reporting areas	Target for 2004
Corporate Environmental Management	To monitor the potential significant environmental aspects of EPD's internal activities as identified in the 2003 review.
Minimising the Impacts of Our Operations	To continue close supervision of our waste facilities contractors aiming at full compliance with both legal and contractual environmental requirements.
	To achieve full compliance with legal and departmental environmental requirements in our laboratories and field operations.
Greener Office	To further extend the e-request arrangement to purchase of all consumable items costing less than \$50 000 and phase out hard copy submissions.
	To actively implement new paper saving initiatives identified in 2003 to catch up with the government-wide voluntary target for saving paper.

	<p>To implement further energy saving measures in conjunction with energy audit.</p>
	<p>To further pursue green transport arrangements and reduce reliance on Government vehicles.</p>
	<p>To conduct IAQ tests and obtain IAQ Certificates for all EPD offices by phases to ensure a healthy working environment for all staff.</p>
<p>Staff Awareness, Training and Participation</p>	<p>To organize workshops/seminars and awareness campaigns for staff.</p>
	<p>To promote staff participation and contributions to complement government-wide waste reduction initiatives.</p>



## 9 Verification Statement

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### Verification Objective

BMT Asia Pacific Limited was appointed to verify the contents of EPD's *Environmental Performance Report 2004 (EPR 2004)*. The verification intends to provide EPD's stakeholders with external assurance of the accuracy and completeness of information presented in the report.

This Statement is issued based on:

Independent third party opinion - BMT was not involved in any aspects of the preparation of *EPR 2004*; and  
The findings of a verification process that involved validation of a representative selection of data and claims, checking of data collection mechanisms and information management systems, assessment of the report's comprehensiveness, and identification of areas to improve EPD's reporting process.

### Approach

A series of meetings covering data review sessions was held between 29 June and 5 July 2004 with EPD's divisional representatives including senior professional and technical staff. During the process, BMT reviewed, examined and checked selected claims and reported figures, relevant supporting data and documented evidence, as well as data systems. BMT also requested EPD to further substantiate specific claims and make amendments to the report as necessary. The Department's approach to management and implementation of policy and initiatives under specific programme areas were also discussed.

### Scope

The following elements of *EPR 2004* were sampled during the verification:

Implementation of EPD's policy, major projects under each programme area and improvement initiatives;  
EPD's facilitation of, and input to, major government-wide policies, strategies and greening initiatives;  
Local and regional partnerships and plans for pollution reduction;  
Improvements in environmental conditions associated with the implementation of EPD's initiatives;  
Development and enforcement of environmental legislation;  
Legal compliance of EPD's contracted and self-managed facilities;  
Contractor and supply chain management;  
Emergency preparedness and response;  
Complaints handling and response;  
Consultation and address of public concerns and feedback;  
External awareness raising campaigns, community-based programmes and training initiatives;  
Internal green management and measures; and  
Target setting, implementation and progress monitoring mechanisms.

### Results and Commentary

#### Report Accuracy

The claims made in *EPR 2004* examined by BMT represent an accurate account of EPD's actions and performance in 2003. EPD has made amendments, to BMT's satisfaction, to claims and figures that were deemed questionable or unclear during the verification;  
Data collection mechanisms and information management systems are generally efficient, organised and effective. In particular, data were systematically collected, recorded, stored and analysed in accordance with prescribed methodologies, and specific data used to support claims

and compile reported figures were appropriately retrieved and interpreted; and Reliability and efficiency of several data systems have been improved by expanded functions, strengthened archiving and the application of new information technology.

### Report Coverage and Relevance

*EPR 2004* provides a balanced overview of EPD's performance in 2003 with respect to its roles and responsibilities within government, key programme areas and relevant projects, and significant environmental aspects related to daily operations and services;

As with *EPR 2003*, *EPR 2004* puts forth an extensive account on the partnerships that EPD has formed on various levels to raise awareness, advance local trade-specific programmes, reinforce regional efforts and further sustainable development;

The report clearly sets out EPD's on-going measures to address impacts arising from its own operations and services. It also provides year-on-year review by systematically covering year 2003 improvement targets under each programme area, specific actions taken and progress recorded in 2003 and planned targets for year 2004 and beyond;

The report considerably increases disclosure of EPD's actions to address negative public opinions and concerns related to on-going projects and emerging controversial issues.

### **Recommendations for Future Reports**

EPD is encouraged to:

Further improve the presentation of achievements and progress against policy commitments and strategic goals by providing an at-a-glance overview, preferably in graphical format, for each programme area; and

Move towards sustainability reporting by including elements on financial, health and safety, social and sustainability performance, considering relevant guidelines by the Global Reporting Initiative.

**14 July 2004**

<b>Ben Ridley</b> Director, BMT Asia Pacific Limited	<b>Deanna Li</b> Lead Verifier, BMT Asia Pacific Limited
<b>Federick Wong</b> Data Reviewer, BMT Asia Pacific Limited	



## 10 Feedback Form

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We welcome your valuable feedback on the Environmental Protection Department's Environmental Performance Report 2004 (the Report), to help us make improvements in the coming year. Please complete this form and either send it by clicking the "Submit" button below, or post it to the Environment, Safety and Health Unit, Environmental Protection Department, 25/F, Southorn Centre, 130 Hennessy Road, Wan Chai, Hong Kong or fax to 2834 8845. You may also send any comments by email to: [enquiry@epd.gov.hk](mailto:enquiry@epd.gov.hk). Thank you.

1. How did you come to know about the Report?

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2. Did you find the Report informative?

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3. Did you find the information presented in an easily understandable way?

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4. What information did you find particularly useful?

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5. Which aspect(s) of the Report would you like to have more information on?

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6. How can we improve the Report?

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7. Do you have any other comments and suggestions?

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8. Please specify your background (general public, green group, professional / academic, other government department / organisation, etc.)

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(optional)

Name:

Telephone:

Address: