ENVIRONMENTAL
PROTECTION DEPARTMENT's

ENVIRONMENTAL PERFORMANCE REPORT 2000

Contents

Foreword

ONE of the more important new policy initiatives introduced by the HKSAR's Chief Executive has been the requirement for all government departments and policy bureaus to produce annual reports on their environmental performance. Through this initiative, not only will the public have access to useful information, but the environmental awareness and, hence, the environmental performance of the government as a whole, will be greatly improved.

This report is the first that the Environmental Protection Department (EPD) has produced under the Chief Executive's new initiative. It is not, however, the first report we have produced concerning environmental protection in Hong Kong. Each year we publish Environment Hong Kong, which provides the public with comprehensive information on the state of the environment and the new measures that have been undertaken to improve the environment. It can be accessed easily through our website <www.info.gov.hk/epd/>.

Preparing this first environmental performance report has presented us with a unique challenge. Unlike other government departments, our entire purpose and reason for existing is to protect and improve the environment, so a full environmental performance report should perhaps cover every aspect of our work. Much of this, however, is already covered in Environment Hong Kong.

We have, therefore, decided in this inaugural report to focus on the key ways we work to help improve the environment, as well as reporting on the direct environmental impact of our day-to-day departmental activities.

In preparing our environmental performance report, we have gained much from pausing to think about the EPD's impact on the environment, both through our daily activities and through the policies we seek to put in place. I am certain other government departments and policy bureaus will also as they go through a similar exercise.

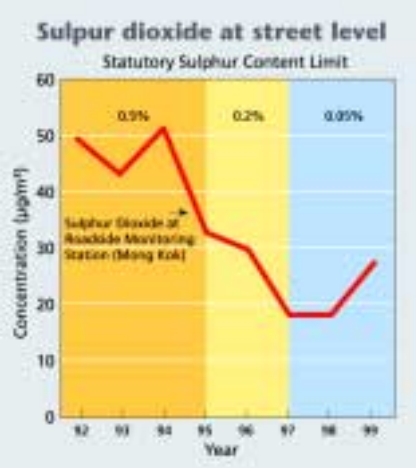
At the EPD, we are proud of our many achievements in protecting the environment. But Hong Kong's environmental problems are constantly changing and providing new challenges. There is also always room for improvement in the way any organisation goes about its work — and we are acutely aware that we need constantly to aim to do better.

I sincerely hope that readers will find this report both informative and useful. Feedback from the public on how we could further improve our reporting would, however, be most welcome. Comments may be sent to the address shown on the back cover or by e-mail to <enquiry@epd.gov.hk>.

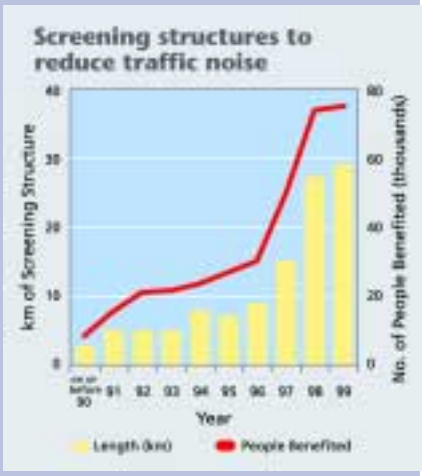
R. J. S. LAW, JP
Director of Environmental Protection

At a Glance

We will publicise to the community in general our Environmental Policy and report annually on our environmental performance



Vehicle emission on a decreasing trend



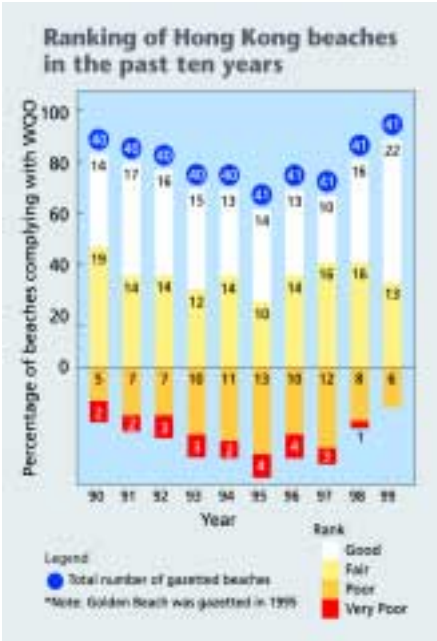
A quieter environment

Introduction

The Environmental Protection Department (EPD) is committed to protecting and improving the environment of Hong Kong – for both present and future generations.

This is EPD's first report that evaluates the environmental performance of our own programmes and activities. It covers the department's key performance areas in 1999, and the main targets we set out to achieve in 2000. In going through this reporting exercise, we recognise the need for continuing efforts to establish clearer and more meaningful performance measures of our work and seeking continuous improvement in future exercises.

- The Environmental Policy on page 4 provides the overall direction in which we work.
- The EPD's organisational profile begins on page 6 – it includes departmental activities, programmes and responsibilities, as well as the facilities we manage.
- The environmental impact of our programmes and operations is on page 10 – it provides the context for the rest of the report.
- An analysis of our performance, focusing on the key areas in which we are involved, starts on page 12.



Beach water quality is improving

- Our performance targets for the years ahead are outlined beginning on page 40.
- Finally, this Report ends with an independent verifier giving his objective evaluation of this report.

For more comprehensive information on EPD's programmes and the state of our environment, readers should refer to our annual report Environment Hong Kong 2000.

Highlights of Programmes in 1999

Environmental Assessment

- We completed a strategic environmental impact assessment (EIA) on the Comprehensive Transport Strategy Review, identifying possible solutions to potential road traffic problems which could affect the environment.
- We protected about 270,000 people from environmental impact or nuisance through the EIA Ordinance.

Air Quality

- More stringent emission standards for new vehicles were introduced in 1999. This combined with more active enforcement against smoky vehicles helped reduce street-level air pollution.
- We developed a scheme to improve indoor air quality.

Noise

- We phased out noisy pile drivers completely.

Waste Reduction

- Under the Waste Reduction Framework Plan launched in 1998, we established a Waste Reduction Committee in February to identify priorities and co-ordinate waste reduction measures. We also completed the Waste-to-Energy Feasibility Study and environmental impact assessment of four potential sites.

Water Quality

- Water quality ranking at 10 of the 41 gazetted beaches moved up by one rank. None were downgraded.

Landfill Restoration

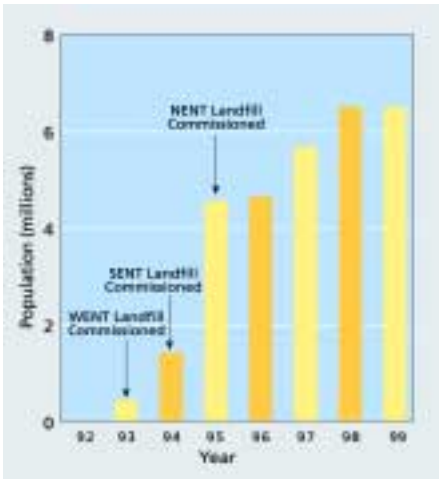
- We commissioned a temporary public golf driving range on the restored Shuen Wan Landfill at Tai Po, the first completed project under the territory-wide Landfill Restoration Programme which returns landfill to public use.

Legislation and Enforcement

- To enhance enforcement efficiency, we implemented an integrated pollution control system in which our enforcement staff are qualified in all pollution control areas.
- We succeeded in catching 121 additional polluters in two weeks with our special enforcement task forces.

Greater Cross-Border Cooperation

- We established greater cooperation with the Guangdong authorities on air pollution control measures, conservation, environmental impact assessment and air quality management.
- We signed a memorandum of understanding on cross-border waste shipments with the State Environmental Protection Administration.



More population is served by environmentally acceptable landfills

Community Awareness

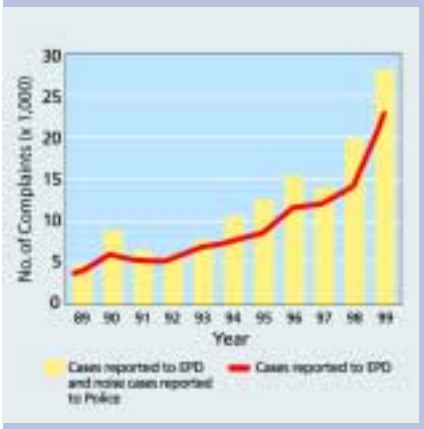
- We started a three-year publicity and education campaign aimed at increasing public awareness of environmental problems and support for the government's environmental initiatives.

Helping Other Departments

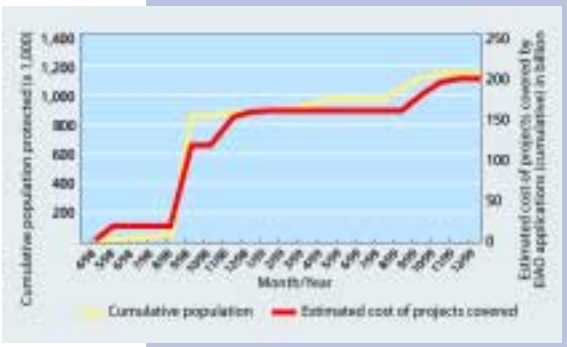
- We set up a help desk to assist other HKSAR government bureaus and departments in utilising their Controlling Officer Environmental Report as a tool to integrate environmental management into their programmes and activities.

Greening EPD Operations

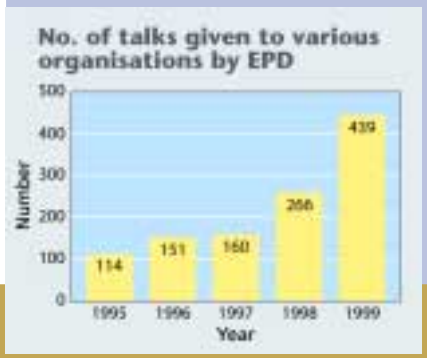
- We revised our own Environmental Policy to embrace our programme activities in addition to green office management.
- We implemented an electronic environmental monitoring and auditing reporting system for construction projects which reduced drastically the amount of hard-copy submissions.
- We capped the size of our fleet of vehicles through streamlined operations.



Serving the community better in resolving local pollution problems



More population is protected through the EIA process on major capital projects



More public seminars to promote environmental awareness

Major Targets for 2000

Strategic Environmental Impact Assessment

- To complete the strategic environmental assessment for the Second Railway Development Strategy and to facilitate discussion on the findings among the general public in 2000.

Air Quality

- To implement the various initiatives on controlling vehicle emissions in accordance with the Chief Executive's 1999 Policy Address.
- To strengthen liaison with the Guangdong authorities to formulate effective measures to tackle regional air pollution.

Waste Reduction

- To formulate a strategic plan for incorporating materials recovery/recycling facilities into the municipal solid waste management system.

Water Quality

- To complete the review of the Strategic Sewage Disposal Scheme.

Noise

- To conduct a trial scheme with other government departments to minimise traffic noise in urban areas through better traffic management.

Sustainable Development

- To complete the territory-wide Environmental Baseline Study for public release.

Corporate Environmental Management

- To obtain ISO 14001 certification for the Waste Facilities Business Unit.

Greener Offices

- To keep the consumption of paper and electricity at 1999 levels, conduct a survey on the major sources of paper consumption with a view of setting future reduction targets, and introduce electronic workflow to reduce the consumption of paper.

Greener Contractors and Suppliers

- To require two new waste facility operators to obtain ISO 14001 certification.
- To develop jointly with the Government Supplies Department environmentally responsible product specifications.

Environmental Policy

Enjoying a healthy and pleasant environment

Sustaining the environment is vital for both the present and future generations

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 in general 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 our initiatives to our 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 their environmental responsibilities and to participate constructively in environmental activities.

Management Review

The Management will review regularly and seek continual improvement in this Policy in order to ensure it is adjusted to reflect changing internal and external factors.

Pre-empting environmental problems associated with development projects, plans and policies

Formulating and implementing programmes to improve and safeguard the environment

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***

Organisation, Programmes and Responsibilities

THE ENVIRONMENTAL Protection Department (EPD) provides direct support to the Environment and Food Bureau which is responsible for the development of environmental policy. The department's job is to administer environmental policy and develop new initiatives.

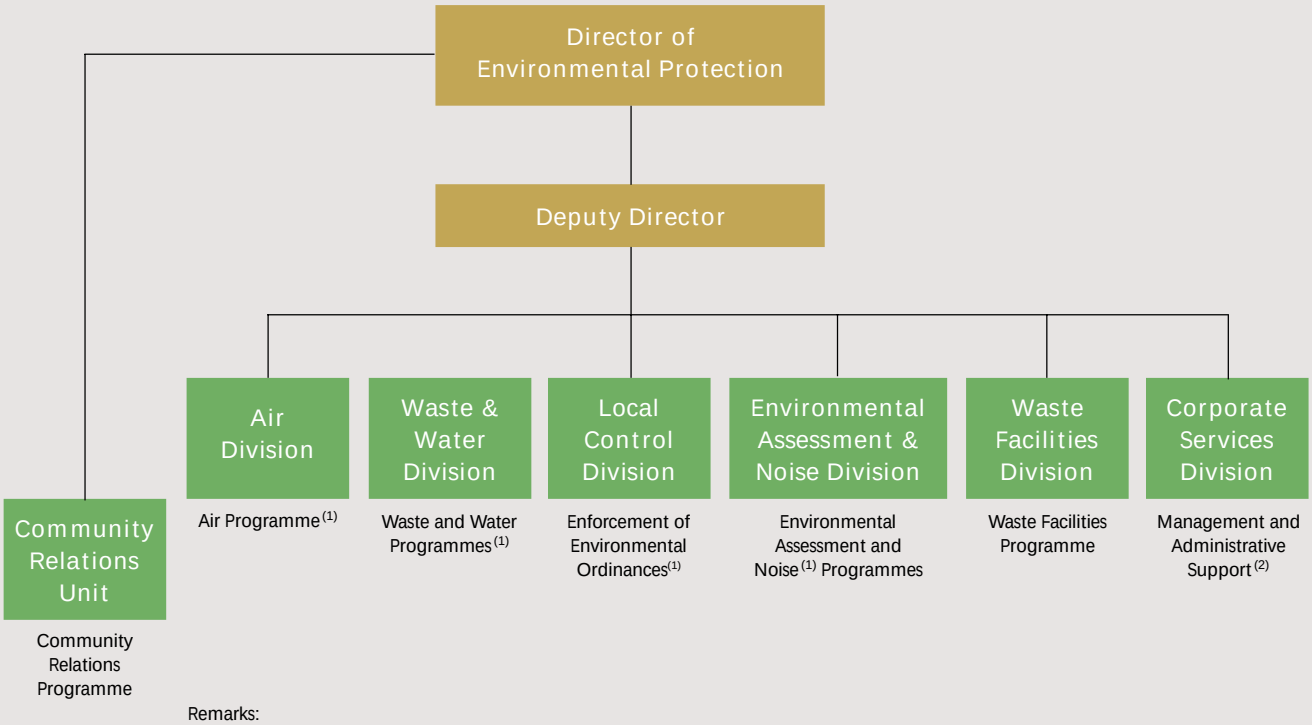
Established on 1 April 1986 with staff and resources from six government departments, the EPD's remit was to bring the majority of pollution prevention and control activities under one organisation.

The department is responsible for proposing policies; 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.

The department employs 1,650 staff, a quarter of whom are professional staff, and half are technical-grade staff – the remainder being administrative and support staff.

In 1999, out of the departmental budget of about $2.1 billion, about 60% was for contract payments for the treatment and disposal of municipal and chemical wastes, some 34% on staffing, and 6% for equipment and general operating expenses.

Organisation Chart of Environmental Protection Department



Remarks:
(1) The major enforcement duties under the Air, Noise, Waste and Water Programmes are carried out by the Local Control Division.
(2) Covers corporate environmental management, technical information, staff safety and health, human resources management, and information technology.

Waste Facilities Programme

- prepare 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 these plans and programmes

Air Programme

- achieve and maintain satisfactory air quality through intervention in the planning process
- participate in the programme of risk management of potentially hazardous installations and matters related to energy and global warming
- enforce the Air Pollution Control and Ozone Layer Protection Ordinances

Noise Programme

- prevent, minimise and resolve noise problems through intervention in the planning process
- enforce 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

Water Programme

- ensure the quality of freshwater and seawater meets with our conservation goals
- ensure the sewerage system operates safely and effectively
- enforce the Water Pollution Control Ordinance

Environmental Assessment and Planning Programme

- pre-empt environmental problems associated with projects, plans, policies and strategies by assessing their environmental implications and implementing preventive and mitigatory measures where potential problems are identiifed
- strive for the best possible environmental performance in both the public and private sectors
- enforce the Environmental Impact Assessment Ordinance

Community Relations Programme

- promote community awareness through environmental campaigns, publicity, education and action programmes

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***

EPD Offices and Facilities

14 Air Quality Monitoring Stations

Sha Ling Livestock Waste Composting Plant

Shatin Refuse Transfer Station (Road Based)

Sai Tso Wan Landfill (closed and under restoration)

Tsing Yi Chemical Waste Treatment Centre

Vehicle Emission Testing Centre

West Kowloon Refuse Transfer Station (Marine Based)

Marine Monitoring Vessel

Chemical Laboratory at Revenue Tower

Wan Chai Environmental Resource Centre

Local Control Office (Territory South)

South East New Territories Landfill

Legend

EPD Offices

- Headquarters Office (1)
- Local Control Offices (6)
- Branch Offices (3)

EPD Facilities

- Chemical Waste Treatment Centre (1)
- Livestock Waste Composting Plant (1)
- Operating Strategic Landfills (3)
- Closed Landfills under Restoration Programme (13)
- Refuse Transfer Stations (7)
- Environmental Resource Centres (2)
- Visitor Centre (1)
- Laboratories (5)
- Vehicle Emission Testing Centre (1)
- Monitoring Vessel (1)

Our Influence and Impact on the Environment

The Department's contribution towards improving the environment

Main Activities		Environmental Results
	Contribute to the decision-making process in 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 ◆ Waste management ◆ Water quality ◆ Noise mitigation
	Plan and provide waste management facilities	◆ Handling and disposal of waste in an environmentally responsible manner
	Establish regulatory control framework and enforce environmental ordinances	◆ Reduced air, water, waste and noise impact from polluting activities
	Build partnerships and engage stakeholders	◆ Closer cooperation among parties on environmental improvement action
	Promote environmental awareness and public participation	◆ Increased public awareness and support in preventing and tackling environmental problems
	Support research and professionalism in the environmental disciplines	◆ Enhanced professional contribution to environmental management in Hong Kong

Environmental impact of our own operations

Operations & Services	Effect and Environmental Impact	
Waste Collection, Transfer and Disposal Services 	Discharge of wastewater and leachate	◆ Pollution loading on receiving water bodies
	Emission of landfill gas	◆ Potential fire and hazards to human life
	Environmental nuisance	◆ Noise, odour and visual impact
	Exhaust emission from on-site treatment facilities, vehicles and vessel fleets	◆ Pollution from particulate and green-house gas emission, etc.
	Consumption of fuel and electricity	◆ Pollution from particulate and green-house gas emission, etc.
Laboratory Services 	Exhaust emission from fume cupboards and safety cabinets	◆ Contributing to air pollution
	Wastewater discharge	◆ Pollution loading on receiving water bodies
	Accidental chemical spillage	◆ Potential hazards to human life
	Generation of chemical and biological wastes	◆ Contributing to residual pollution from waste treatment processes
Office Activities 	Consumption of energy and resources (electricity, paper, water, stationery, etc.)	◆ Pollution from particulate and greenhouse gas emission, etc. ◆ Depletion of resources
	Generation of solid waste	◆ Increased demand for landfill disposal
Field Work 	Fuel consumption and emissions from vehicles/vessels	◆ Pollution from particulate emission and greenhouse gas emission, etc.
	Use of chemicals	◆ Contributing to contamination of soil and water bodies
	Disposal of samples	◆ Contributing to residual pollution from waste treatment processes

We will contribute proactively to strategic decision-making in the government which will have an impact on the environment

Environmental quality was a key concern identified through strategic environmental assessment of the CTS3

Our Contribution to Strategic Decision-Making

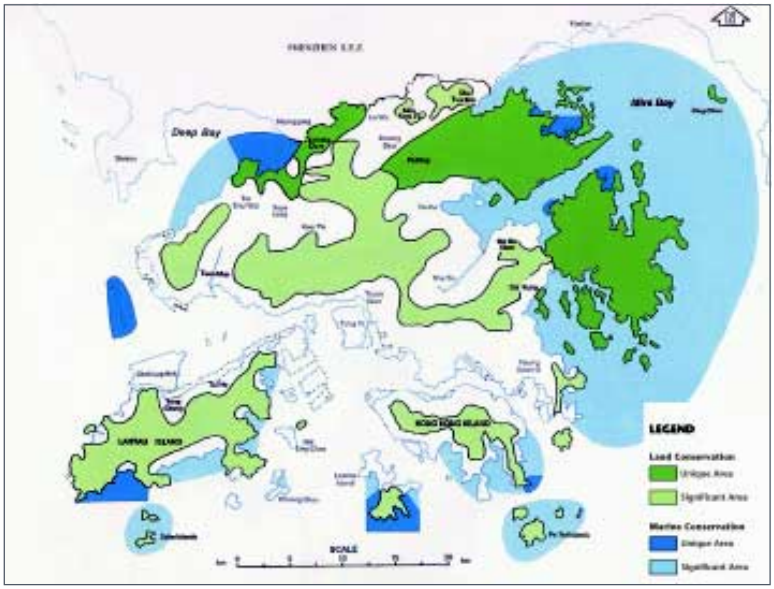
THE EPD builds environmental considerations into the HKSAR's decision-making process by providing decision-makers with professional advice on environmental implications of policies, strategies, and planning proposals at an early stage.

In 1999, we reviewed more than 200 submissions to the Executive Council and the Public Works Sub-Committee of the Legislative Council, and advised on the environmental implications of the projects and proposals.

In October 1999, we completed the steering and management of the strategic environmental assessment for the Third Comprehensive Transport Study which identified that there would be major environmental concerns under the proposed transport strategy. In conjunction with other departments and bureaus, EPD's efforts led to a public consultation exercise on the environmental findings in 1999, an informed public discussion, and much greater awareness of the long-term environmental implications of the transport strategy. The EPD helped to establish a follow-up mechanism to monitor and audit the various factors affecting the transport strategy's environmental performance.

In the coming years, we will continue to work with other departments and bureaus to promote the incorporation of environmental considerations into decision-making processes. Before the first quarter of 2001, we will issue a study brief on the strategic environmental assessment for the upcoming Hong Kong 2030: Planning, Vision and Strategy, which will guide the future development of Hong Kong. We will also complete the management of the strategic environmental assessment for the Second Railway Development Strategy in 2000 to provide adequate environmental information for public consultation and informed decision. We will also promote the use of the Internet for project proponents to inform and involve the public in their strategic environmental assessment process.

Use of railways to minimise potential air and noise pollution was a key consideration of the Second Railway Development Study



Environmentally sensitive areas are protected through strategic or regional environmental studies

Planning for a Better Environment

Prevention and Mitigation through Environmental Impact Assessment

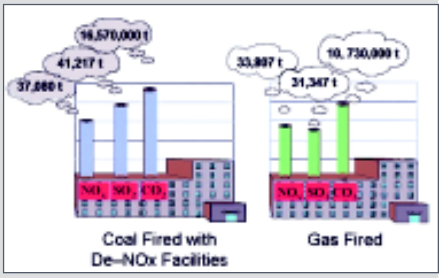
DURING 1999, we processed more than 110 applications under the Environmental Impact Assessment (EIA) Ordinance involving projects at a total cost of $62 billion. The impact avoidance measures adopted in these applications will eventually benefit about 270,000 people in the vicinity of railways, roads or on new reclamation sites. We also managed more than 100 environmental monitoring and audit programmes during project implementation to ensure compliance with EIA recommendations.

We will formulate and implement programmes to improve and safeguard the environment

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

Pre-empting environmental problems:

- **Hongkong Electric Company's new 1,800MW power generating units at the Lamma Extension:**
  Through the EIA process applied at the planning stage, the new generation units are to be fuelled by natural gas instead of coal. The choice of the greener fuel means a reduction in total annual emissions of sulphur dioxide (60%), nitrogen oxides (40%) and carbon dioxide (10%) compared with levels without the new generation units.



Choice of a greener fuel through the EIA process reduces emission of pollutants

Natural habitat of high ecological value and bio-diversity protected through the EIA process

- **Reclamation and developments in Tai Ho Bay:**
  The EIA on Tai Ho Bay in North Lantau indicated that it is one of the most valuable fresh water habitats in the territory, supporting more than 40 different fish species. As a result of the EIA study recommendation, the originally planned 10 ha reclamation within Tai Ho Bay was dropped in order to conserve the important ecosystem within the bay area.

The statutory EIA process allowed due environmental considerations in the planning and design of Cyber Port development

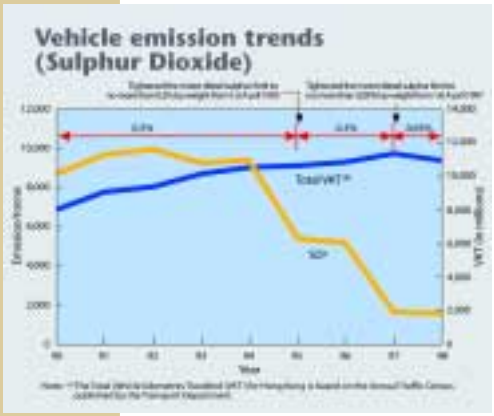
- **Cyber Port Development:**
  The statutory EIA process allowed due environmental considerations in the planning and design of this development. Upgraded sewage treatment facilities, 2.9 km noise barriers and 2.2 ha of compensatory landscaping will be adopted to avoid or minimise adverse environmental impact.

■ In 2000 - 2001, we will enhance public participation in the EIA process by establishing an electronic network to provide environmental information to the public, and by requiring project proponents to put the environmental monitoring and audit results on the Internet. This will also significantly reduce the amount of paper used in producing hard-copies of reports. We will also establish an EIA Ordinance Help Bench on the Internet to provide 24-hour, online guidance and an information database for project proponents, consultants and the public.

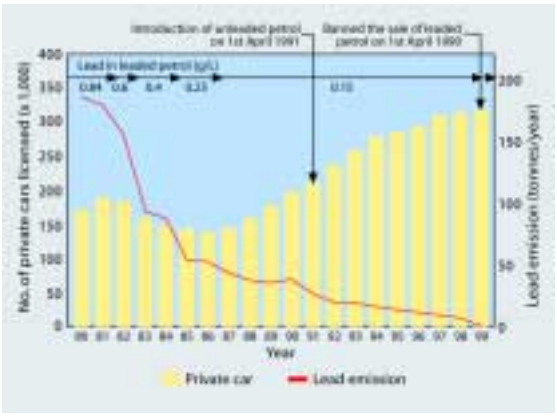
We will formulate and implement programmes to improve and safeguard the environment

Better Air Quality

CLEANING OUR air is one of the highest pollution control priorities. Programmes to control vehicular emissions and to introduce clean fuels and advanced control technology have been implemented. Yet street-level pollution from vehicular emissions remains the major source of urban air pollution.



Vehicle emission has been reduced with the introduction of catalytic converters, clean fuels, and better vehicle emission standards



Lead emission reduced despite rising vehicle population

During 1999, we undertook directly, or were instrumental in achieving, the following:

- Completed trials of LPG taxis, and gained support from the community to replace diesel taxis with LPG taxis
- Introduced more stringent emission standards for newly registered diesel vehicles and evaporative emission standards for newly registered petrol vehicles
- Introduced emission standards for newly registered motorcycles
- Banned the sale of leaded petrol
- Implemented the regulation to control benzene emissions from petrol-filling stations
- Completed a public consultation on the proposed Indoor Air Quality Management Programme
- Commenced a joint study with Guangdong on air pollution in the Pearl River Delta Region in order to investigate regional air quality problems and identify ways to tackle them

Introduction of LPG taxis will reduce air pollution

Public consultation on the Indoor Air Quality Management Programme was completed in 1999

■ As a result of efforts made in 1999, there has been increased public awareness and support from both the community and legislators in tackling our air pollution problems. A comprehensive programme to tackle air pollution was announced in the Chief Executive's Policy Address in October 1999. Our air improvement plan includes:

- Phasing out diesel taxis and light buses
- Retrofitting particulate traps or diesel catalysts to diesel vehicles currently in use
- Promoting cleaner alternative vehicles to replace diesel vehicles
- Strengthening enforcement against smoky vehicles and promoting proper vehicle maintenance and eco-driving techniques
- Introducing more stringent vehicle emissions and auto fuel standards;
- Tightening the sulphur content of industrial diesel to be in line with that of motor diesel
- Introducing ultra-low sulphur diesel to reduce emissions from diesel vehicles

The above measures aim to reduce respirable suspended particulates from the present vehicle fleet by 80% and nitrogen dioxide by 30% by 2005.

- Promoting the Indoor Air Quality Management Programme
- Completing the Joint Study on Air Pollution in the Pearl River Delta Region with Guangdong authorities with the aim of developing improvement measures

Quieter Environment

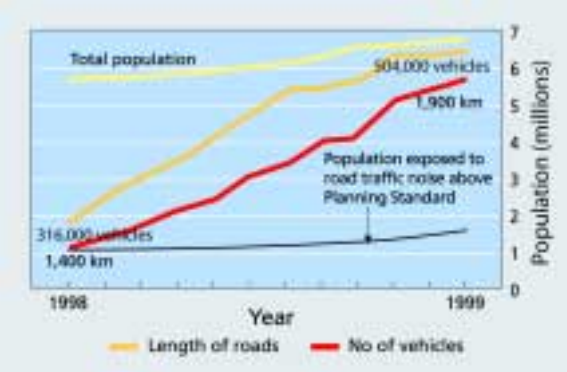
ENVIRONMENTAL noise is one of the most pervasive nuisances that affects the quality of life. Our goal is to protect and maintain an acceptable acoustic environment for the community by:

- advising on technical solutions on potential noise problems identified in advance during the land-use planning process
- managing noise abatement programmes to bring relief to existing residential flats and schools adversely affected by traffic noise; and
- enforcing the Noise Control Ordinance

While noise from commercial activities and road traffic in new towns is under control, noise from daytime construction activities and road traffic in the older developed areas is still a matter of concern. For the foreseeable future, we need to be vigilant, continuing the efforts and responding to the rising public aspirations on the quality of living. We plan to review the controls on daytime construction noise, specifically the noise created by domestic renovation sources, and plan to gauge the general noise environment.

Concurrently, we need to generate new ideas, such as the development-hub concept whereby an environmentally-friendly railway is the main transport link between developed business centres and residential estates. Overall, quieter forms of transportation must be established and more traffic free zones created.

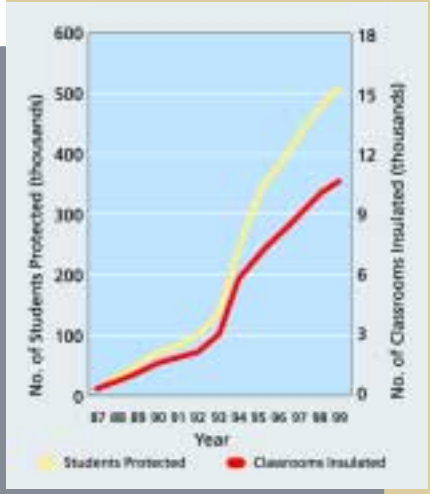
We will formulate and implement programmes to improve and safeguard the environment



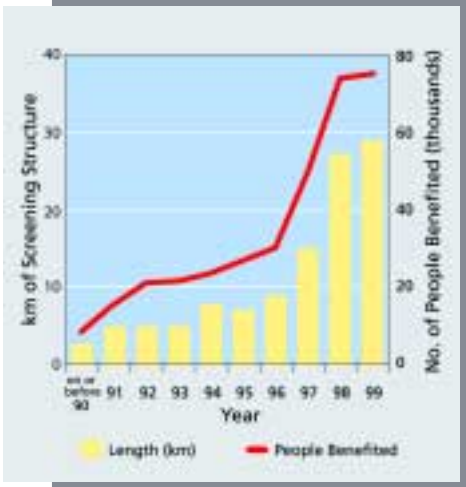
Population exposed to road traffic noise above Planning Standard

By the end of 1999 our influence resulted in:

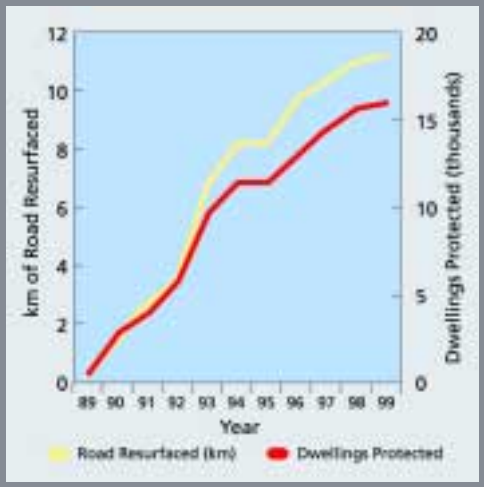
- about 27 km of noise barriers and enclosures protecting some 15,000 dwellings from exposure to excessive traffic noise were completed and acoustic insulation and air-conditioners provided to some 6,000 flats
- around 500 schools have also been installed with acoustic insulation and air-conditioners, benefiting more than 514,000 students
- approximately 11 km of highway was resurfaced with a quieter surface to provide relief to some 16,000 residential flats



Noise insulation benefits more students



Screening structures benefit more people



Quieter road surface benefits more dwellings

Environmentally Sound Waste Management

We will formulate and implement programmes to improve and safeguard the environment

ENVIRONMENTALLY sustainable waste management continues to be our major challenge. The aim is to improve and safeguard the environment from adverse environmental effects associated with improper handling and disposal of waste by establishing a framework of legislative and institutional controls while providing convenient, cost-effective waste management facilities.

The EPD runs a comprehensive system managing all types of waste including municipal, livestock, construction, chemical and clinical, sewage and water treatment sludge, as well as other more difficult wastes, and dredged spoil.

In an effort to reverse the rising trend in waste generation, we published a Waste Reduction Framework Plan, which sets out our strategy to divert 60% of the municipal solid waste away from landfills over the next decade. To achieve this goal, we must change community's attitudes towards waste prevention and waste reuse. The Waste Reduction Committee has been formed to help coordinate and focus on waste reduction measures, and advise on priorities.

Waste recycling in housing estate

Recovery of waste saves landfill space

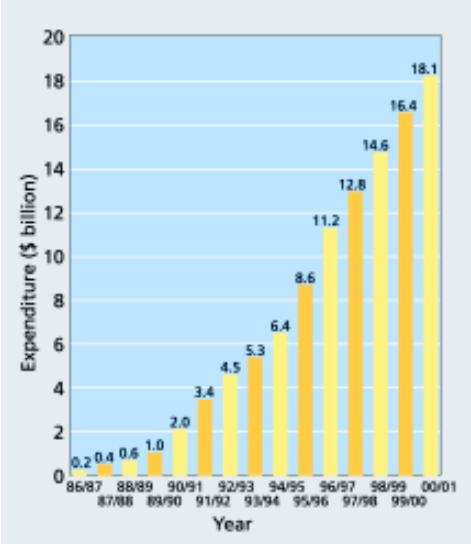
During 1999, we began the development of a Waste Management Plan to replace the existing Waste Disposal Plan, setting out our vision for a sustainable waste management system for the HKSAR over the next 20 years.

A strategy to reduce the volume of sludge disposed of at landfills was developed and the search for a suitable site for a Sludge Treatment Facility was initiated. Guidelines have been published on the investigation of contaminated land and to ensure proper remedial work and disposal of contaminated soil. A risk-based framework is being developed for the assessment of contaminated land. A plan to amend the Waste Disposal Ordinance (WDO) in 1999 to support a clinical waste control scheme was delayed due to public concern over the use of the existing Chemical Waste Treatment Centre's incinerator to treat clinical waste. A review of alternative treatment technologies was commissioned and will be completed in 2000.

Better Water Quality

ATTAINING and maintaining the quality of both our inland and marine water is one of EPD's highest priorities. The strategy to achieve this includes development of 16 Sewerage Master Plans (SMPs); the development of the Strategic Sewage Disposal Scheme (SSDS) for the main urban areas; upgrading sewage treatment levels; and specific initiatives for particularly threatened areas such as beaches.

During 1999, three SMP studies were implemented and initial planning for two more was started. While a key element of SSDS Stage I, the Stonecutter's Island Sewage Treatment Works, was commissioned in 1997, public concern in 1999 indicated the need for re-evaluation of subsequent stages. There was also a delay in the completion of the Environmental Impact Assessment (EIA) for SSDS Stage II due to late resolution of issues outside EPD's control.



Cumulative capital expenditure on sewerage infrastucture

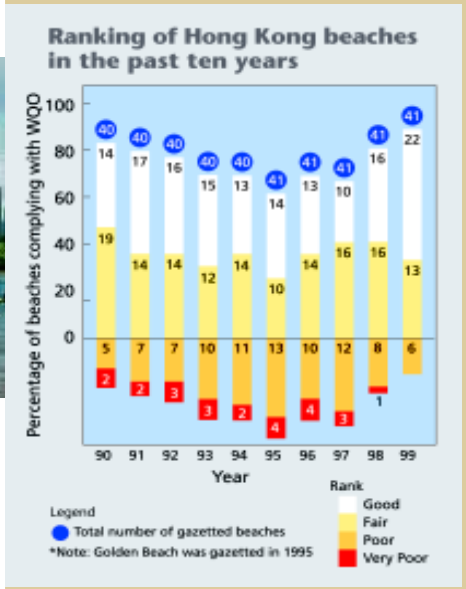
However, good progress was made on the study of the cumulative impact on the marine environment due to rapid coastal development. Based on the information gathered, a computer model was successfully calibrated by the end of 1999. Progress was also made on implementing the control strategy for Deep Bay, with sewerage improvement works and upgrading of sewage treatment works being planned or carried out. The plan to develop a water quality control strategy for Mirs Bay through a joint study between EPD and the Shenzhen Environmental Protection Bureau was endorsed by the Technical Sub-Group of the Hong Kong-Guangdong Environmental Protection Liaison Group in October 1999. A study to identify the sources and pathways of toxic substances in Hong Kong, and to assess their potential threat to aquatic life and human health was initiated.

The water quality of Butterfly Beach in Tuen Mun has improved

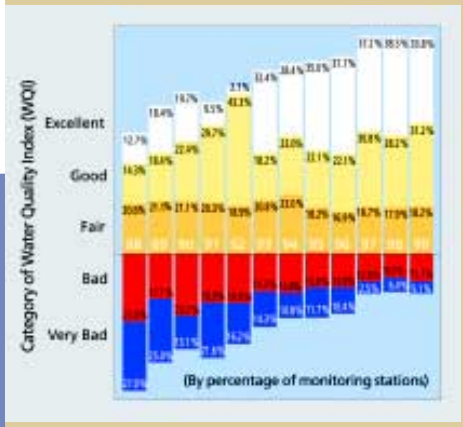
On-going water monitoring has indicated progress on our water quality improvement programmes. Among the 41 gazetted beaches, 10 have moved up one rank to a better grading and no beach was downgraded in 1999. Percentage compliance with our marine Water Quality Objectives (WQOs) increased from 69% in 1998 to 81% in 1999, with an ultimate target of 100%.

■ In 2000, a review of the Hong Kong Island SMP and those of the North District and Tolo Harbour in the New Territories will be initiated. Consultations on the review of the Technical Memorandum under the Water Pollution Control Ordinance will also be initiated during 2000. It is expected that the tunnelling for SSDS will be completed by end 2000. An International Review Panel for SSDS will be established in early 2000 to re-examine the remaining stages and make its recommendations by end 2000. The SSDS Stage II EIA will also be completed in 2000.

We will formulate and implement programmes to improve and safeguard the environment



Improving trend in beach water quality since 1995



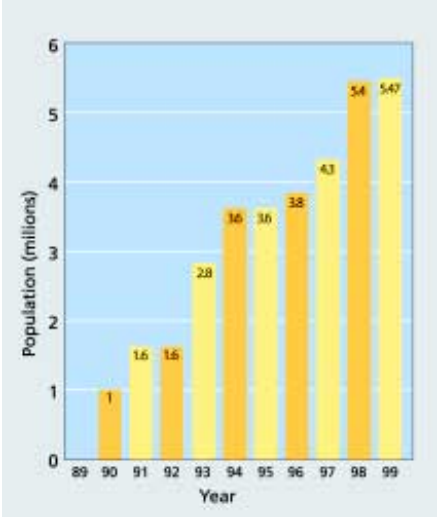
Improving trend in river water quality since 1988

Waste Facilities and Landfill Restoration

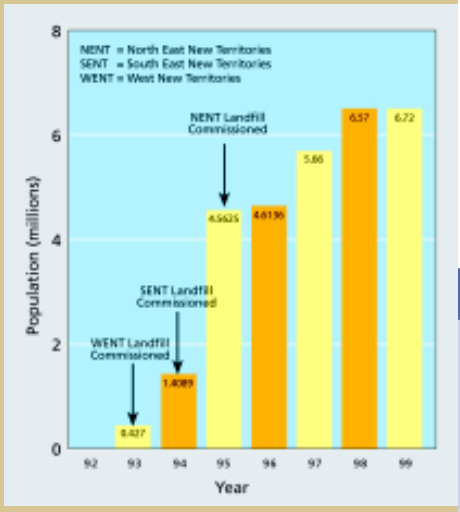
Our aim is to provide convenient and cost-effective waste management facilities, as well as promote a sustainable approach to waste management

THE SCARCITY of land available for landfilling in Hong Kong underlines the importance of an efficient and sustainable approach to waste facilities planning. The EPD now manages three mega-landfills, a network of seven Refuse Transfer Stations (RTS), a Chemical Waste Treatment Centre (CWTC), and a Livestock Waste Composting Plant to ensure the impact on the environment is reduced to a minimum. In a cost-effective, and efficient move, specialist waste management contractors designed, built and operate these facilities under the watchful eye of the EPD.

We have also started a programme to restore 13 closed landfill sites, reducing the environmental impact so that these sites can revert to community use. At the end of 1999 restoration work at seven sites, namely, Shuen Wan, Tseung Kwan O Stage I, Tseung Kwan O Stage II/III, Sai Tso Wan, Ma Yau Tong Central, Ma Yau Tong West and Jordan Valley Landfills was completed.



More population served by refuse transfer stations



More population served by environmentally acceptable landfills

The highlights of 1999:

- Handled 6.59 million tonnes of solid waste at landfills
- Transferred 1.87 million tonnes of municipal solid waste to landfills through RTSs
- Used landfill gas to power most on-site facilities at the Northeast New Territories (NENT), Southeast New Territories (SENT), Western New Territories (WENT) & Tseung Kwan O (TKO) Landfills
- Sorted inert fill, wood and metal from incoming waste for recycling at SENT
- Treated 62,200 tonnes of chemical waste at the CWTC
- Completed the environmental impact assessment for incinerating clinical waste at CWTC as scheduled and conducted the public consultation exercise
- Conducted feasibility studies and environmental impact assessments for waste-to-energy facilities at four potential sites
- Commenced the restoration of four exhausted landfills in the Northeast New Territories and Gin Drinkers Bay. A temporary golf driving range was opened on the restored Shuen Wan Landfill. Restoration work at two old landfills at TKO was satisfactorily completed

The restored Shuen Wan Landfill has been turned into a golf driving range

In the coming year, we will:

- conduct a feasibility study and environmental impact assessment for waste-to-energy facilities on a fifth potential site, after which the public will be consulted on the findings and recommendations
- study measures to extend the life of the existing landfills while concurrently searching for new replacement waste disposal sites for the future
- complete restoring all but one of the exhausted landfills by end 2000 – Pillar Point Valley landfill will be restored by 2004.
- begin planning to develop these restored landfills – for example, turning them into recreational and educational facilities – with a view to starting construction at the first site in 2001.
- ensure that all our waste facilities continue to provide a quality service to waste producers and that all waste received will be treated in an environmentally-sound manner.
- complete a review on the alternative technologies for clinical waste treatment

Restoration of substandard old landfills will be completed by 2004

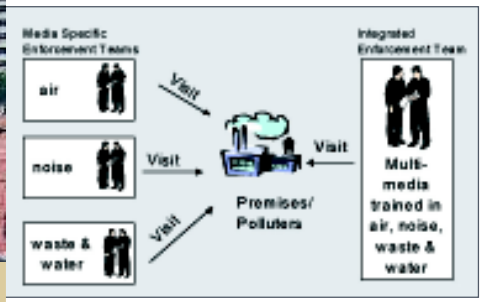
A network of refuse transfer stations and landfills serve the whole territory

Effective Legislation and Enforcement

Our aim is 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

THE EPD ENFORCES the environmental ordinances dealing with various types of pollution, whether it be air, water, waste and noise pollution. We also assess the environmental impact of development projects, respond to complaints and regulate specific polluting activities through strict licensing procedures.

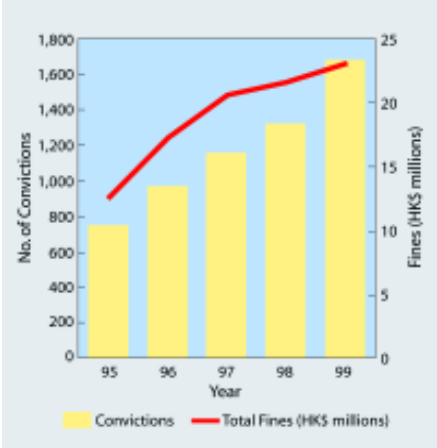
To improve our efficiency and effectiveness in enforcement, we have introduced in 1999 at our Local Control Offices, integrated enforcement teams with staff members trained to deal with all types of pollution control in a single site visit. This has also resulted in a more customer-oriented service.



Greater efficiency and effectiveness with integrated enforcement

We have also set up task forces to tackle specific pollution problems. In June 1999, a one-week round-the-clock surveillance and ambush operation against livestock farmers netted 43 cases of illegal dumping of liquid wastes into rivers and streams. In December 1999, a similar targetted operation against construction activities was conducted with 1,049 inspections identifying 78 instances of noise, air and water pollution violations.

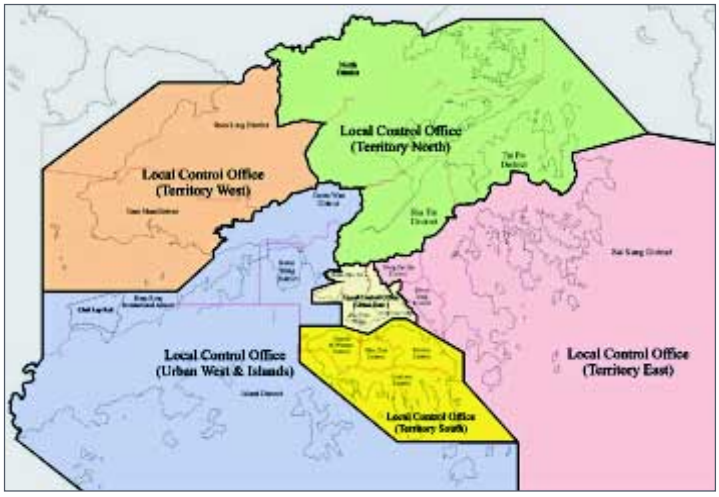
Through more efficient and effective enforcement between 1995 and 1999, there have been an increasing number of convictions in court, and the associated level of fines has also increased. This trend has had deterrent effect. In 1999, we handled 22,761 pollution complaints and carried out nearly 73,500 inspections. Prosecutions led to 1,681 convictions (a 28% increase on 1998) and fines of $22.9 million (a very slight increase on 1998) were collected. More first time offenders were convicted, which accounted for the stagnant amount in fines because they tend to attract lower fines. However, these figures also suggest a drop in repeat offenders.



Increased number of convictions with similar level of fines suggest a drop in repeat offenders

Task force enforcement operation against construction activities in December 1999 caught 78 non-compliance cases

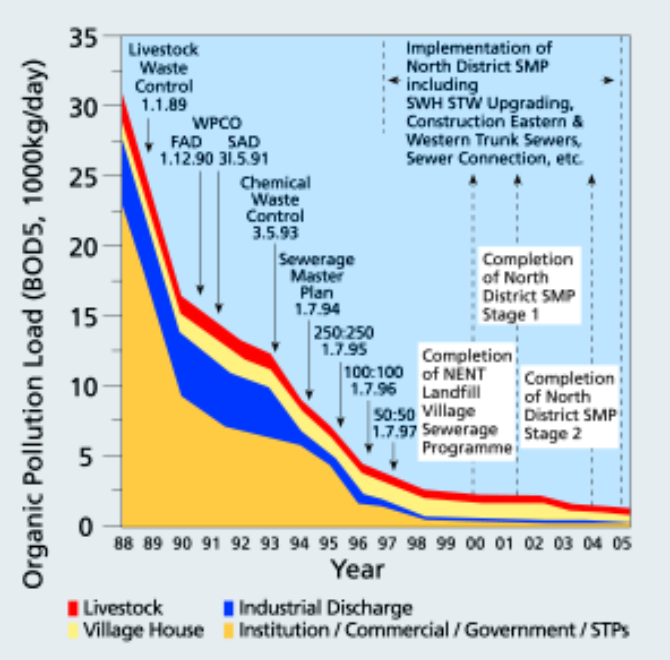
EPD hotlines handled 22,761 pollution complaints in 1999



Boundary map for the six Local Control Offices

Our rigorous enforcement has contributed to the following:

- An estimated 80% dust emission reduction from construction sites since the regulation came into operation in 1998
- Noise control inspections of construction works increased to 4,500 in 1999, compared with 450 per year in the early 1990s, resultiing in a quieter environment for around one million people
- 90% reduction in river pollution in the HKSAR's 10 major waterways from the original 120,000 kg BOD/day (Biochemical Oxygen Demand) discharged in the early 1990s
- An 80% decrease in the total toxic metals discharged into Victoria Harbour from 5,000 kg/day in 1995
- A 98% reduction of the livestock waste discharged into our rivers from 840,000 tonnes annually in the late 1980s, the equivalent of sewage waste generated by 1.6 million people

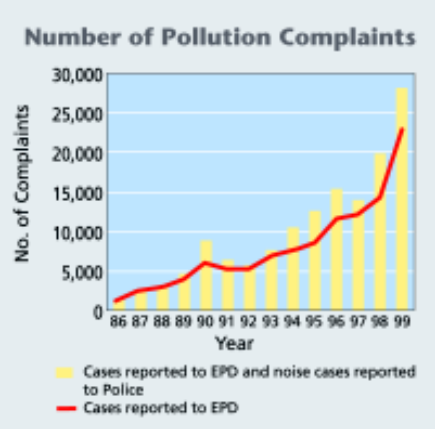


Strict enforcement of environmental laws results in significant reduction of organic pollution load in the North District

Although the number of pollution complaints received by EPD has increased four-fold during the past decade, we responded to 99% of the complaints within three working days. In 1999, we commissioned an independent survey by A.C. Nielsen (China) Ltd. to gauge feedback by users of our hotline service – 89% were satisfied.

We recognise the importance of promoting self-regulation and self-policing of environmental performance by business and industry. To promote this, we will continue to arrange more seminars and workshops to explain legal requirements and continue to share information on good practices for preventing and controlling pollution. As for those trades with poor compliance records, we will enhance communication.

We will also continue to improve the efficiency and effectiveness of our pollution control activities through full implementation of integrated enforcement and the wider application of information technology. We will also strengthen the technical training of our enforcement staff while concurrently emphasising customer relations.



Rising environmental concerns and community expectations result in increasing number of pollution complaints

Seminars are organised to promote compliance with environmental laws

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

WE HAVE worked closely with other government departments, including the Fire Services and Marine Departments and the Government Chemist to provide speedy response to environmental incidents. We have comprehensive response plans to deal with 36 different types of emergency situations on land and at sea, including oil and chemical spills.

Our local control offices provide dedicated support to all emergency responses. In addition, our Chemical Waste Treatment Centre contractor provides a chemical waste clean-up and disposal service in case of incidents involving chemicals. In 1999, we were involved in 33 cases of land-based chemical incidents and 16 marine-based incidents. In each instance, the clean-up work was completed satisfactorily.

In 1999, we set up an Emergency Response Drill Team for enhancing staff performance and readiness in emergency situations.

We will continue to provide prompt and effective responses to all environmental incidents. We shall concurrently review the effectiveness of our emergency response plans, and conduct drills, including at least a territory-wide one in the year. In 2000, we plan to conduct a seminar to share our experiences with local and overseas experts. We will also look for opportunities to increase public awareness in preventing environmental damage due to accidents and carelessness.

Two most serious environmental incidents in 1999 were:

- The overturning of an oil tanker in Tuen Mun Road on 6 May 1999 resulted in the contamination of large areas, including Tuen Mun Road, nearby streams and beaches and the sea. This led to the closure of Lido and Casam Beaches for three days. The clean-up work at sea and on land took three days to complete
- The collision of a river barge carrying 70 tonnes of the chemical sodium hypochlorite with another vessel near Butterfly Beach on 11 May 1999 resulted in the spillage of 20 tonnes of the chemical into the sea. The beach had to be closed for half a day as a precautionary measure. Under our direction, the remaining 50 tonnes of the chemical was safely recovered from the damaged barge by the owner of the chemical

Spill from an overturned oil tanker was cleaned up by the emergency response team of the Chemical Waste Treatment Centre

Chemicals were recovered safely from a barge after a collision incident

Contribution towards Sustainable Development

EPD HAS BEEN working closely with other government departments and stakeholders to promote sustainable development.

We participated actively in the government's Study on Sustainable Development for the 21st Century (SUSDEV 21) and contributed our ideas on the setting up of the Sustainable Development System that allows the incorporation of sustainability considerations in future policy-making. We took part in the Steering Group for the study and chaired the Environmental Study Management Group that steered the environmental part of the SUSDEV 21.

We recognise that fostering a greater ownership and responsibility for organisations to improve their own environmental performance will be important to achieve sustainable development.

EPD steered the Environmental Baseline Study under SUSDEV21 to help promote sustainable development

EPD conducted training for 460 public officers on environmental reporting

In 1999, the EPD:

- contributed to the establishment of a policy requiring all government departments and bureaus to publish annual environmental reports starting from year 2000
- conducted nine training seminars or workshops for 460 officers from government departments, bureaus, public corporations and government-subsidised organisations
- published a step-by-step "Guide to Environmental Reporting" to help departments, bureaus and other organisations prepare their annual environmental reports. (The guide encourages every government unit to improve its own environmental performance – its activities and projects as well as its major policies and programmes.)

Through our strict enforcement of the EIA Ordinance, we contributed to sustainable development by requiring major projects to take into account environment considerations at the planning stage.

We also worked hand-in-hand with the international communities and across administrative boundaries to preserve our environment. In 1999, we carried out a study to take stock of the HKSAR's greenhouse gas emissions such as carbon dioxide which are recognised internationally to have potential effects on the world's climate. The study's outcome will help the HKSAR formulate its policy on greenhouse gas.

■ In 2000, we will complete the management of the Environmental Baseline Study under SUSDEV 21. This will provide baseline information to support the environmental part of the Sustainable Development System being developed. We will also continue the help desk service to provide specific advice and assistance to government departments and bureaus on the preparation of their environmental reports.

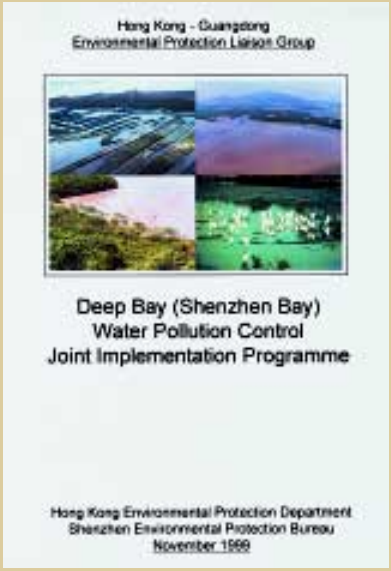
We will contribute actively to government-wide policies and programmes that support sound environmental management and sustainable development

EPD promotes environmentally sound management in the Government

EPD contributed to the formulation of sustainable development system for Hong Kong

Building Partnerships

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



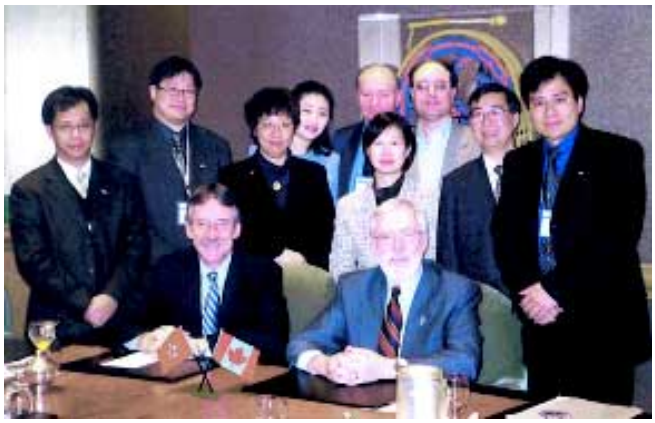
Cooperation with Guangdong Authority to tackle environmental problems in the region – Deep Bay (Shenzhen Bay) Water Pollution Control Joint Implementation Programme

RECOGNISING THE need to win support from all segments of society, we have been building partnerships with all relevant stakeholders and professionals at both national and local community levels. The experience EPD staff gain from these outside contacts is invaluable.

In 1999, we signed a Memorandum of Understanding (MOU) with the Mainland State Environmental Protection Administration on the control of waste shipments across the border. We maintain regular contacts with the environmental authorities in the Mainland to tackle cross-border environmental issues.

We participated in the Hong Kong-Guangdong Environmental Protection Liaison Group, which has now been replaced by the Joint Working Group on Sustainable Development and Environmental Protection, to implement jointly environmental protection initiatives and conduct joint studies on mutual environmental issues. Both Governments have commissioned a joint study to investigate and develop joint action plans to tackle the air pollution problems in the Pearl River Delta Region. Both sides have also agreed to study the feasibility of adopting common standards for diesel fuel with a view to minimising emissions from the large number of vehicles crossing the border daily.

Signing of Memorandom of Understanding with the Mainland on control of waste shipment



Signing of the Year 2000 Work Plan with Environment Canada

The MOU we signed with Canada in 1992 on environmental collaboration promotes and encourages cooperation and collaboration on environmental issues of mutual concern. Over the years, there have been useful exchanges of environmental information, professional workshops and meetings on pre-empting and controlling pollution problems. In 1999, another MOU was signed with the City of Vienna, and a workshop on Environmental Technologies is planned for 2000.

Locally, we have regular liaison meetings with the green groups to exchange views and work together on projects and campaigns. We collaborate with private sector companies in trial schemes – for example, we are testing Ultra Low Sulphur Diesel fuel with the bus companies in a pilot scheme. Formal channels of consultation on environmental issues are the statutory Advisory Council on the Environment and the Environmental Affairs Panel of the Legislative Council. In addition, we participate in District Council, industrial and business association meetings to explain new environmental initiatives and to seek their views.

At the professional level, we initiated the Professional Persons Environmental Consultative Committee that serves as a forum for local professional institutions to exchange views and develop professional practice notes on good environmental measures.

Partnership with the private sector is vital in promoting environmental initiatives

Meeting with District Council members

The Workplan for 2000 with Environment Canada

- International Workshop on the Enforcement of Pollution Control in the HKSAR
- HKSAR Delegation to attend Globe 2000, Vancouver, Canada
- EIA Workshop
- Workshop and Training on Basel Convention
- Workshop on Ecosystem Management and Planning for the Pearl River Delta, with the State Environmental Protection Administration, Guangdong and Shenzhen Environmental Protection Bureaus

Visiting a sewage treatment plant with District Council members

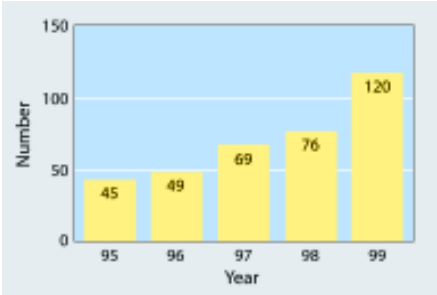
Environmental Awareness and Education

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

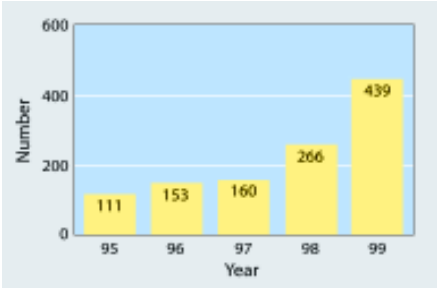
We will actively encourage businesses and other organisations in Hong Kong to adopt environmental management systems and pollution prevention measures

Community Support

GAINING COMMUNITY support has been, and remains, one of the greatest challenges of the environmental protection work in the HKSAR. Over the years, we have worked in partnership with green groups and other community organisations to raise the community's environmental awareness through a range of activities and programmes. They include talks and lectures; organising and running environmental education and awareness projects for schools, youths, corporations, government departments, other organisations and members of the public; serving as advisers and adjudicators of community environmental programmes; making suggestions to community groups and environmental committees on corporate environmental strategy and on how to organise environmental awareness programmes.



No. of Environmental Awareness & Education Programmes organised



No. of talks given to various organisations by EPD

The 1999 highlights include:

- Staging the Hong Kong Environmental Protection Festival & World Environment Day, both of which focused on the theme of sustainable development
- The Waste Recycling Campaign in Housing Estates first started in March 1998. In 1999, Phase III extended the campaign to separate paper, aluminium cans and plastic bottles to 300 private and public housing estates
- The School Waste Paper Separation and Recycling Pilot Scheme was launched in 1999 with 100 schools participating in the pilot scheme
- The first Hong Kong Eco-Business Awards for green offices and shops were organised in 1999 to encourage green practices in the businesses

Environmental Protection Ambassadors

- The Schools Environmental Award Scheme and Student Environmental Protection Ambassador Scheme, aiming at cultivating a sense of responsibility towards the environment among students, attracted 417 schools. These schools nominated a total of 6,139 students as Student Environmental Protection Ambassadors

School children are encouraged to participate in Waste Paper Recycling Campaign

Waste recycling campaign in housing estates (Phase III)

We intend to concentrate more efforts in out-reach education programmes at district levels in order to disseminate further the environmental awareness message.

Public Access to Information

We place much emphasis on making environmental information widely available to the general public. Examples of environmental information available to the public:

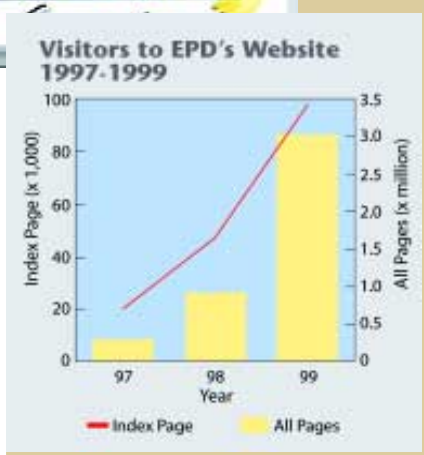
- Weekly reports on the water quality at the gazetted bathing beaches during the swimming season are issued through Internet, newspapers, TV and radio
- Starting from July 1999, information on the Air Pollution Index (API) has been reported hourly to the public via the Internet and a telephone hotline, as well as to newspapers, radio and TV. API forecasts are available daily and carried daily by the media.
- Statistics on environmental prosecutions brought by the EPD are released to the news media on a monthly basis. Environmental Impact Assessments that are either in progress or about to start are released quarterly.
- Environmental information obtained during routine monitoring of inland water courses and the surrounding sea is published in separate annual reports, as are air and beach water monitoring data.

We produced 36 publications in 1999 ranging from publicity and training materials to guidelines explaining our new services and initiatives.

Since 1996, our website <http://www.info.gov.hk/epd>, has provided easy and instant access for the public to a wealth of information. We plan to revamp our homepage in 2000 to make it even more user-friendly and add new features such as electronic submission of licence applications.

The Air Pollution Index is updated hourly on the Internet

Recognising the important role the media plays in disseminating environmental messages, we organised media visits to our waste facilities and air quality monitoring laboratories in 1999 so that journalists could see the EPD's work first-hand. We also arranged demonstrations showing how air pollution control measures have been applied to government vehicles. In addition, we handled 6,155 press enquiries, issued 168 press releases, organised 14 press conferences and briefings, and arranged 218 press interviews.



Environmental information is readily available at our website <http://www.info.gov.hk/epd/>

Educational packs are distributed to promote environmental awareness

- Several environmental ambassador schemes were organised for community groups such as Junior Police Call, Girl Guides, Scout, Lions, Leos, Zontians, Z-Girls, as well as in the private housing sector
- 830 updated secondary school packs entitled Environmental Explorer, highlighting new technology and recent information on Hong Kong's environment, were distributed to all secondary schools, public libraries, community youth groups, universities and tertiary institutes to promote environmental education
- 1,100 environmental education kits were distributed to all primary schools to provide teachers with up-to-date environmental information
- Apart from the two existing environmental resource centres in Wanchai and Tsuen Wan, funding was secured for an LPG-fuelled mobile resource centre to reach out further to the public, and construction was arranged for a third fixed centre in Fanling

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

Professional Development and Research

OUR 1,100-STRONG group of professional and technical staff come from a wide variety of backgrounds, ranging from science, applied science and town planning to engineering. They are the largest workforce in the profession of environmental management in HKSAR. Many are active members of learned societies in their sphere of expertise. For many years, we have been contributing towards the development of the profession of environmental management in Hong Kong and elsewhere through our active participation in various environmental activities.

Environmental Graduate Training Scheme

There are now more than 180 professional engineers in various fields working in the EPD. But we are conscious of the importance of training future generations of professional environmental engineers. Therefore, we initiated a three-year Environmental Graduate Training Scheme in August 1997. Currently, there are nine engineering graduates under training in the department, three of whom will complete their training in 2000.

We will continue with our investment in staff development in the year 2000.

The highlights of 1999:

- We co-organised 22 events including conferences, technical meetings and visits with our overseas counterparts and the local/international environmental associations, which attracted some 800 local and overseas professionals.
- Members of our staff published in professional journals or presented at conferences or workshops a total of 52 papers on various environmental topics.
- We collaborated with the University of Hong Kong, the City University of Hong Kong and the Agriculture, Fisheries and Conservation Department in conducting research on the dynamics of algal blooms and red tides in sub-tropical coastal waters through monitoring, modelling and prediction. We also collaborated with the Hong Kong University of Science & Technology to evaluate the possible use of a local marine organism to help determine the toxicity of sediment.
- We continued to serve on the fund-vetting committees of the Innovation and Technology Fund and the Environment and Conservation Fund to assist in the selection of worthwhile educational and research projects in the environmental fields.
- Our professional staff met our target of attending on average seven days of training in 1999. About 35% of these training sessions were on environmental subjects with others on management, safety, languages and computers. Our technical staff recorded an average of 6.5 days of training with more than 20% on environmental subjects during the same year

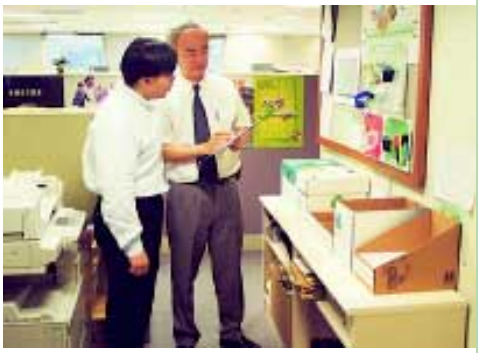
Training courses with overseas experts as speakers are organised for our staff

Corporate Environmental Management

Structure & System

THE DIRECTOR of the EPD is our Green Manager and chairs the department's Green Management Committee (GMC), attended by senior staff from our different offices. The GMC sets policy on internal environmental management in the department. The GMC is supported by the Management Support Unit (MSU), which is responsible for the development, implementation and review of the green management system and practices. In each of the 14 offices, there is a Green Action Team (GAT) comprising staff of various ranks. The GATs are responsible for the implementation of green management practices in the individual offices.

EPD staff undergoing hands-on training on environmental audit

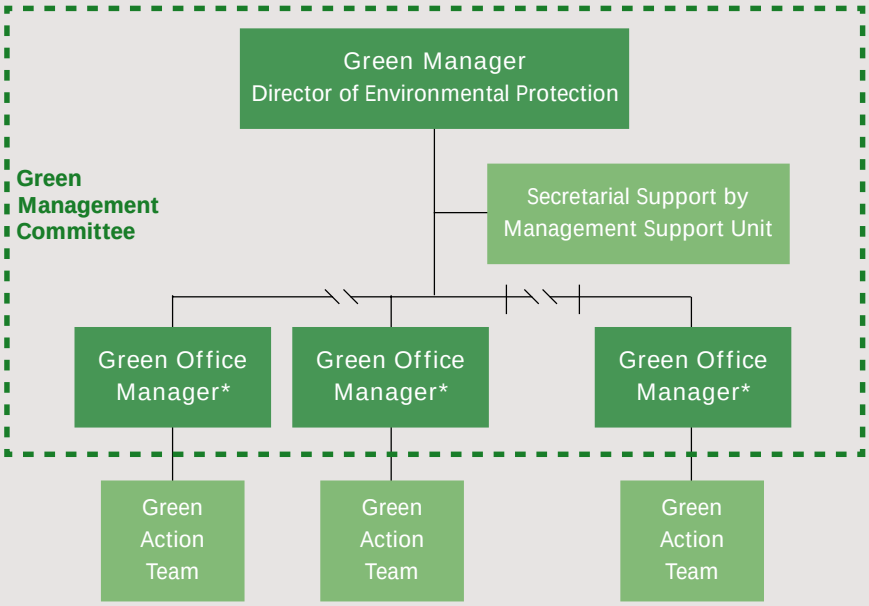


Green auditing by Management Support Unit

Each office is required to carry out their own audits of their activities annually and report back to the MSU. The MSU carries out regular green audits on one office (including laboratories and field offices) each month to serve as an external check on the self-audits. Any non-conformance identified during these external audits is reported to the relevant Green Office Manager for follow-up action.

In 1999, 34 self-audits were carried out by the 14 offices, and 10 external audit checks were carried out by MSU. Only minor non-compliances on green housekeeping practices by individual staff were found.

Green Management System in EPD



Remarks: *Normally at Principal Environmental Protection Officer or Assistant Director rank

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 ISO14001 environmental management systems to improve continually the environmental performance of our major facilities

We review regularly and seek continual improvement in our Environmental Policy in order to ensure it is adjusted to reflect changing internal and external factors

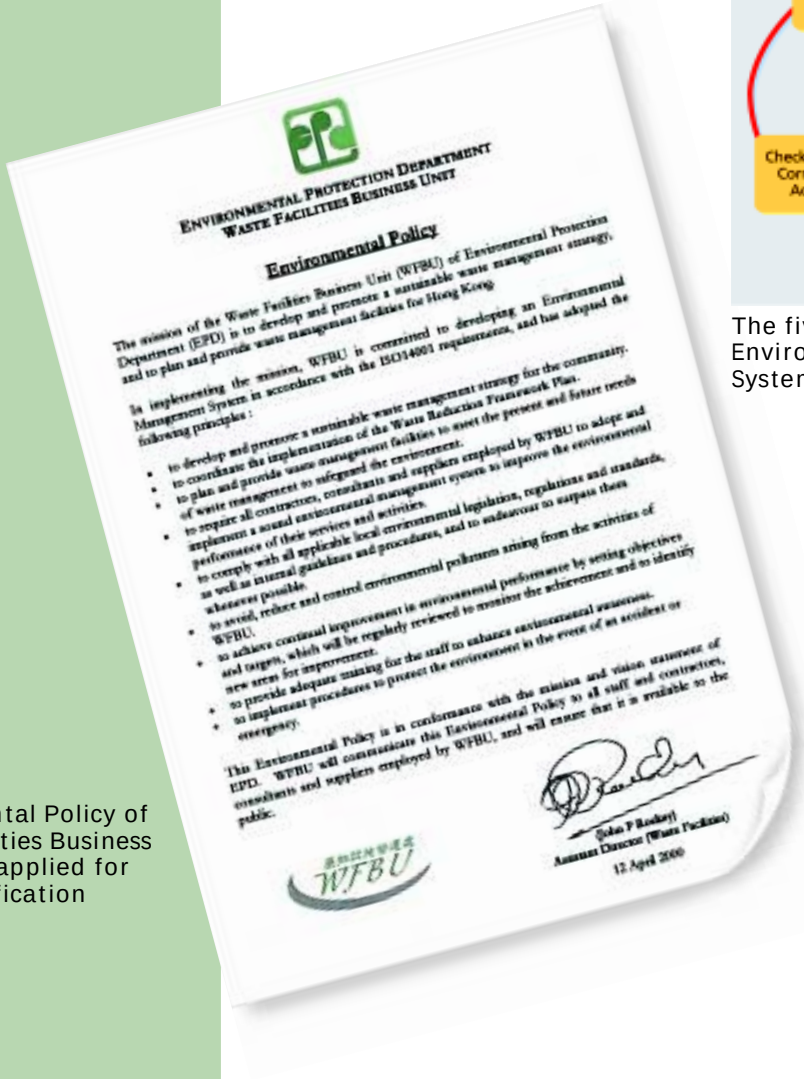
ISO 14001 Certification

We carried out a study in 1997 to identify the need for ISO 14001 certification on the environmental management system (EMS) of our facilities and offices. The study concluded that it would be appropriate for our Waste Facilities Business Unit (WFBU) to go for the certification while our offices and laboratories should adopt an EMS modelled on the elements of ISO 14001.

The Hong Kong Productivity Council was commissioned in June 1999 to assist in developing and implementing an ISO 14001 EMS for our WFBU. The development is now substantially completed and assessments by the Hong Kong Quality Assurance Agency are being carried out with a view to achieving certification in year 2000.

In addition to its own ISO 14001 EMS certification, the WFBU now requires contractors of its new waste management facilities to obtain ISO 14001 EMS certification as part of the contract requirement.

The five major elements of the Environmental Management System



ENVIRONMENTAL PROTECTION DEPARTMENT
WASTE FACILITIES BUSINESS UNIT

Environmental Policy

The mission of the Waste Facilities Business Unit (WFBU) of Environmental Protection Department (EPD) is to develop and promote a sustainable waste management strategy, and to plan and provide waste management facilities for Hong Kong.

In implementing the mission, WFBU is committed to developing an Environmental Management System in accordance with the ISO14001 requirements, and has adopted the following principles :

- to develop and promote a sustainable waste management strategy for the community.
- to coordinate the implementation of the Waste Reduction Framework Plan.
- to plan and provide waste management facilities to meet the present and future needs of waste management to safeguard the environment.
- to require all contractors, consultants and suppliers employed by WFBU to adopt and implement a sound environmental management system to improve the environmental performance of their services and activities.
- to comply with all applicable local environmental legislation, regulations and standards, as well as internal guidelines and procedures, and to endeavour to surpass them wherever possible.
- to avoid, reduce and control environmental pollutants arising from the activities of WFBU.
- to achieve continual improvement in environmental performance by setting objectives and targets, which will be regularly reviewed to monitor the achievement and to identify new areas for improvement.
- to provide adequate training for the staff to enhance environmental awareness.
- to implement procedures to prevent the environment in the event of an accident or emergency.

This Environmental Policy is in conformance with the mission and vision statement of EPD. WFBU will communicate this Environmental Policy to all staff and contractors, consultants and suppliers employed by WFBU, and will ensure that it is available to the public.

John P Bailey
Assistant Director (Waste Facilities)
12 April 2000

WFBU

The Environmental Policy of the Waste Facilities Business Unit which has applied for ISO 14001 certification

Reducing Pollution and Hazards

Waste Facilities

WE ENSURE the environmental performance of the 22 waste facilities run by our contractors through both contractual management and statutory control. The contractors are required to comply with all relevant environmental ordinances, regulations and emission conditions. All monitoring of air, noise and waste water emissions from these facilities is supervised closely by EPD staff on site. Since 1989, we have been implementing non-compliance payment deduction schemes in our waste facility contracts as one of the tools to promote good environmental performance of our contractors.

Compliance Rate

In 1999, no environmental prosecution was taken against any of our waste management contractors. The contractors' overall compliance with the contractual environmental performance requirements was 99.9%. Nevertheless, each non-compliance was thoroughly investigated and remedial action instigated.

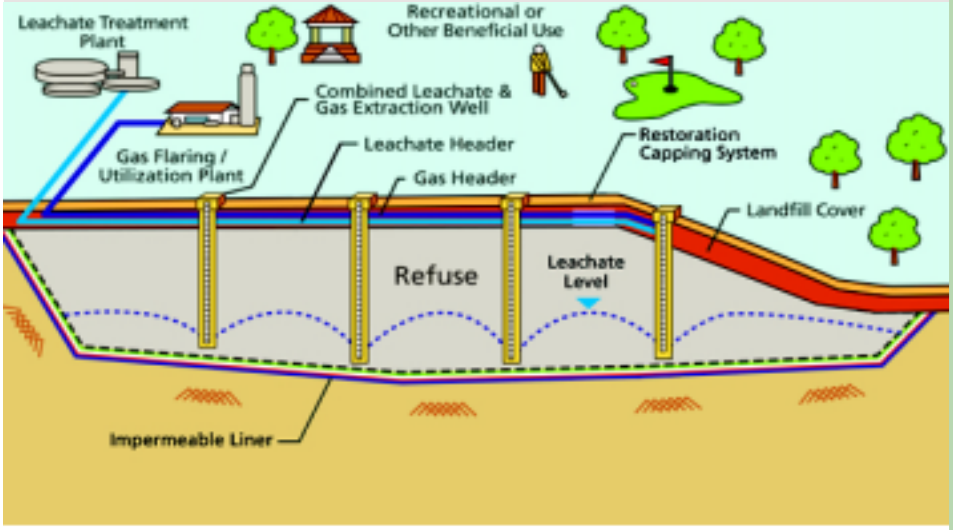
For example, in February 1999, stack gas monitoring at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi indicated that the level of dioxin emission exceeded the contract limit of 0.1 ng I-TEQ/Nm^3 (which is the most stringent limit by international standards), even though the ambient level remained low. The exceedence was found to be caused by the malfunction of an activated carbon injection system. The problem was quickly rectified and no further dioxin exceedence occurred during the year.

Dioxins are the common name for a family of chemicals with similar properties and toxicity. The most toxic one is 2,3,7,8-tetrachlorodibenzo-p-dioxin, or TCDD. They are the unintended by-products of industrial processes that involve chlorine or that burn chlorine containing organic matter.

Complaints

In 1999, six of the 18 complaints against the waste facilities required follow-up action by our contractors. Complaints included bad odours, noise, dust, illegal dumping and speeding. All complaints were dealt with promptly to the satisfaction of the complainants.

Cross Section of Landfill



New landfills are equipped with liners and gas extraction system

New landfills are equipped with liners and gas extraction system

We will avoid, reduce or 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

We will provide leadership by complying with not only the letter, but 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

Landfill gas recovered from an old landfill is utilised in the nearby towngas plant

Construction and demolition materials from the waste delivered to the SENT landfill are sorted out for beneficial use

Pollution Control Measures

- **Landfills**

  All new landfills have gas extraction systems installed from the start, and old landfills are being retrofitted. The boundaries of the landfills are monitored to ensure the landfill gas does not escape. In 1999, an average 640,000 m^3 of landfill gas was collected daily, 37% of which is used to meet nearly all on-site electricity consumption. To date, electricity generators with a total capacity of 7.7 MW have been installed at seven landfills. At the Shuen Wan Landfill, the gas is used as a process gas to produce towngas at the nearby Tai Po plant of the Hong Kong and China Gas Co. Ltd. A construction and demolition (C&D) waste recycling plant has been operating on the Southeast New Territories (SENT) landfill since 1995, sorting and recycling any C&D waste delivered for beneficial reuse (such as in reclamation) and to reduce the amount of waste taking up landfill space. At present the plant is recycling about 38,000 tonnes of C&D waste monthly, representing 15% of the total waste intake at the landfill.

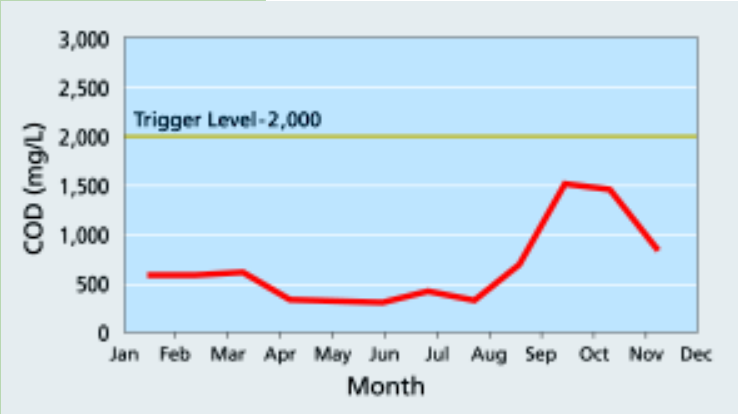
- **Refuse Transfer Stations**

  At the RTSs, which are mostly located in built-up areas, ventilation systems and odour scrubbers are installed to remove offensive odours and dust 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 also takes up less valuable land space.

The Island West Refuse Transfer Station is housed in a cavern

- **Chemical Waste Treatment Centre**

  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 is stopped automatically. The ambient air around the CWTC is monitored twice yearly and measurement of dioxins is carried out monthly. So far, all ambient air measurements are within the Hong Kong Air Quality Objectives. All process residues, including incineration ash, are chemically treated and confirmed to be stable by analysis before being sent to the SENT landfill for final disposal.



The Chemical Oxygen Demand (COD) level of the effluent from Southeast NT Landfill in 1999

Waste vehicles are thoroughly washed before leaving the refuse transfer station

Laboratories

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Field Work

To minimise the effect on the environment in sewerage investigation work, only non-toxic dye is used to trace the source of pollution. Any chemicals used in field measurements and analysis are returned to the laboratories for proper disposal. Safety guidelines are issued to all field staff who are trained in the use of hazardous materials.

Measures adopted to prevent pollution:

- All necessary licences and permits under the law (e.g. Water Pollution Control Ordinance (WPCO), Waste Disposal Ordinance (WDO), etc). are obtained and the conditions stipulated are strictly adhered to
- Emissions from fume cupboards and safety cabinets, including those for asbestos, are scrubbed or filtered as required to remove the pollutants before release into the atmosphere
- Most of the laboratory sinks are fitted with buffer tanks to prevent the accidential discharge of unsuitable substances into the sewers. Buffer tanks will be installed for the remaining seven sinks by 2001. The sink that is used for handling asbestos is also fitted with a filter to remove the asbestos from the waste water

Emissions from the fume cupboard are monitored regularly

Chemical waste is stored properly before removal for disposal by licensed contractor

- Emissions from the fume cupboards and discharges from sinks are regularly monitored to ensure compliance with the required standards
- Chemical waste is properly disposed of by the CWTC contractor and biological waste is disinfected and disposed of in accordance with World Health Organisation guidelines
- Emergency spill kits are provided in all the laboratories and our staff are trained to deal with accidental spills
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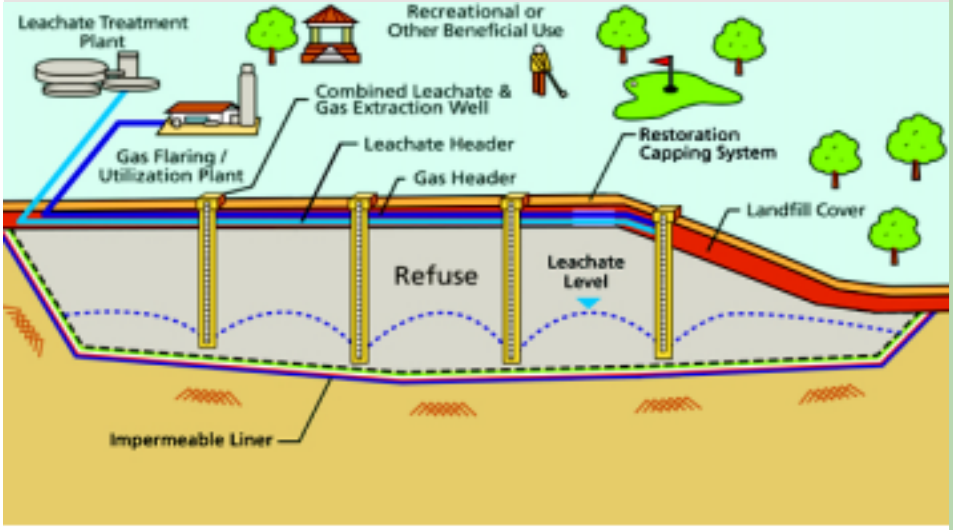

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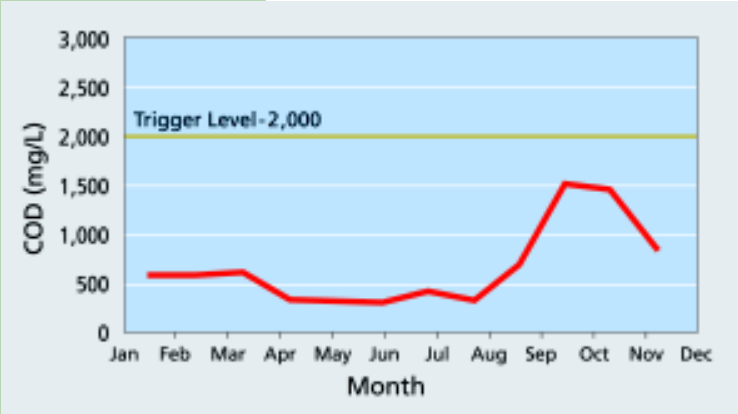

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We will implement an emergency response system for handling environmental incidents, and will be prepared to respond quickly to minimise the damage to the environment

Emergency Response at EPD Facilities

WE HAVE INTERNAL emergency response plans for our own activities, particularly for our waste facilities and laboratories. 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.

Our response plan for the waste facilities was tested on 17 September 1999 when Typhoon York hit the HKSAR hard resulting in the territory coming to a standstill. After the storm warnings were lowered, severe traffic congestion at the Kwai Chung Container Terminal prevented our refuse collection vehicles from accessing the West Kowloon Transfer Station (WKTS). The emergency response plan was immediately activated and 187 loads of waste were diverted to other refuse transfer stations on that day. As a result, there was no adverse impact on the waste collection service.

Emergency Spill Kit and guidelines for dealing with chemical spillage in the laboratory.

The adequacy of these emergency response plans was also put to test in the preparation for the Y2K crossover, when realistic scenarios were enacted to simulate emergency conditions. The department was on full alert during the Y2K crossover, but it proved to be a non-event as EPD had no failures.

Emergency procedures are in place to deal with laboratory accidents involving hazardous materials such as chemicals, samples, chemical waste or bio-hazardous materials, etc. Spill kits and personal protective equipment are always on hand and our staff are trained to use them. The kits and equipment are inspected periodically. All emergencies procedures are documented in the laboratory environmental and safety manuals, and constant training takes place to reinforce the safety procedures.

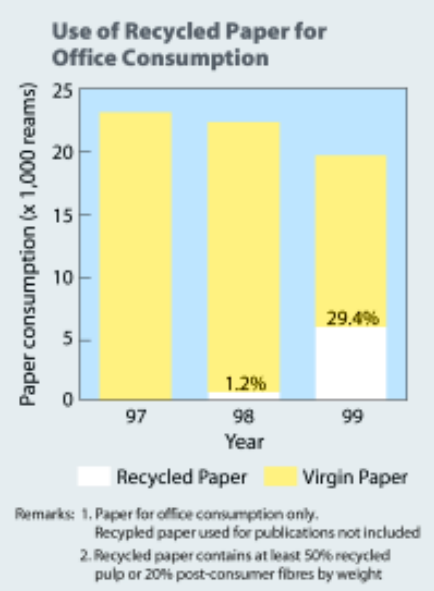
No laboratory incidents were reported in 1999.

Greener Office

GREEN HOUSEKEEPING has always been a high priority in the EPD.

We adopt green measures in our offices for the sake of saving energy and natural resources. Also we want to make our colleagues aware so that everyone, regardless of rank, does their bit in saving our environment. The EPD must be the leader in setting a good example to not only other government departments, but to their families and friends, and ultimately to the community at large.

Our first departmental green housekeeping guideline on the use of electricity was issued back in 1987. We were the first government department to specify the use of recycled paper for all our publications. In 1999, we took a step further and began using only photocopying paper with recycled content. We were also one of the first departments to utilise information technology to reduce paper consumption, as well to enhance office efficiency.



Use of recycled paper is on the rise

For 2000, we will investigate all major sources of paper and electrical consumption so that realistic reduction targets can be set. Further reduction in use of paper is expected with the start of the implementation of electronic workflow under the government's electronic transaction and service delivery initiatives. We will also extend the requirement of soft copies of reports to reduce the number of hard copies to be submitted by external parties.

Only recycled paper is used for photocopying

All publications are printed on recycled paper

Office Environment

Indoor air quality surveys have been conducted since 1998 by the Electrical & Mechanical Services Department at the 10 main indoor offices of EPD. The results showed that the air quality of our offices was generally in compliance with the indoor air quality guideline levels, but levels of carbon dioxide and/or total viable count of microbial/biological contaminants exceeded the set levels in some parts of the offices. Rectification measures have been taken aiming at full compliance with all the guideline levels. To provide a better working environment for our staff, a no-smoking policy has been adopted in all our offices since 1995. The ban has recently been extended to all departmental vehicles, in line with general government policy.

We will exercise the principle 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

Reduction of Material

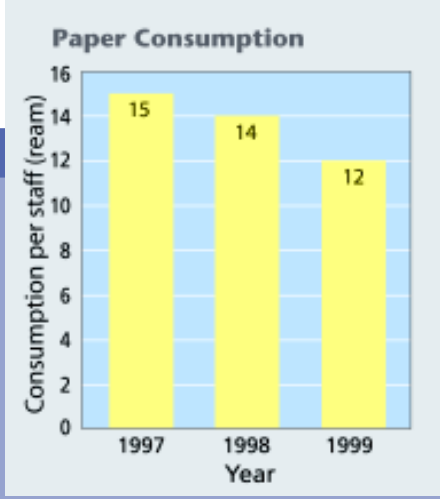
- Extensive use of electronic means for communication, including the sending of electronic files instead of hard copies, distribution of faxes via the computer network, etc., to save paper
- Use of both sides of paper – e.g. use of used paper for drafting, computer printing and photocopying; duplex photocopying and computer printouts; etc.
- Reuse of envelopes and file covers
- Collection of computer printer toner and ink cartridges for refill and recycling
- Use of ballpoint pen refills and clutch pencils
- Use of rechargeable batteries where applicable
- Refill of spent fluorescent markers
- Use of hand dryer instead of paper towel in toilets
- Use of water saving faucets
- Reuse of water that has been used for hand washing for toilet flushing (at the Wanchai Environmental Resource Centre)

Only the minimum number of light bulbs are used to save electricity

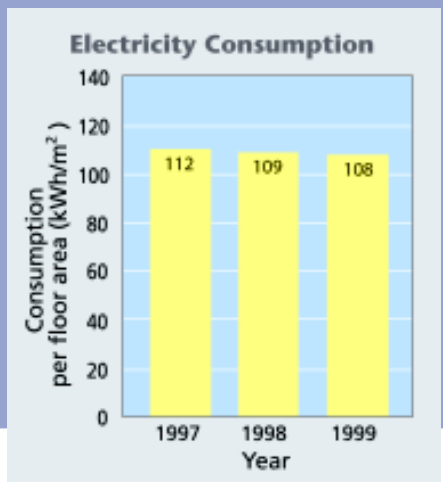
Examples of Energy Saving

- Air-conditioning at 22-25°C
- Venetian blinds to protect against direct sunlight
- Reflective film on windows against direct sunlight
- Switching off of air-conditioners and lights when not in use, and sending "green reminders" to colleagues who forget
- Automatic switch-off timers
- Small air-conditioning and light zones in offices to facilitate switching off when not occupied
- Energy efficient electronic ballast for lighting
- Natural light where possible
- Removal of unnecessary light bulbs
- Use of stairs instead of lifts within the office
- Power-saving features on all computers
- Office equipment with energy-saving features

A recycling corner at our office



We have been able to reduce our consumption of paper and electricity over the past three years



Recycling

- Collection of wastepaper for recycling
- Collection of film canisters, toner cartridges of fax machines, safety helmets and other plastics for recycling
- Collection of aluminium cans and plasitc bottles for recycling

Greener Transport

Office Transport

OUR LOCAL Control Offices have been maximising the use of our departmental vehicles by combining trips. In 1999, we also joined in the pooling system of government vehicles at Revenue Tower in Wanchai North to maximise the use of vehicles between departments. These measures have helped us to increase our operations without purchasing additional vehicles since 1996.

We have initiated and implemented a non-idling policy for our vehicles in an effort to reduce air pollution.

All but one of our vehicles – mainly medium vans, saloons, and motorcycles – run on petrol, instead of the more polluting diesel fuel. The only non-petrol vehicle is one saloon which runs on LPG, and it is utilised more than other vehicles in the department. Our new mobile Environmental Resource Centre will also run on LPG.

In 1999, we initiated discussion with the Government Land Transport Agency (GLTA) to include environmental performance considerations in awarding contracts for hired vehicles, e.g. black smoke emission, the use of petrol instead of diesel, and the installation of particulate traps and/or catalyst converters.

We intend to improve our own performance further and will be devising internal green transport plans for our operations to promote greater use of efficient and environmentally friendly means of transport by 2001.

Vehicle Type	Number of Vehicles	Fuel Used
Motorcycle	5	Petrol
Saloon	3	Petrol
Saloon	1	LPG
Van	44	Petrol
Cross Country Vehicle	7	Petrol
Total	60	

EPD vehicles use environmentally-friendly fuel

Demonstration of the use of LPG in one of our vehicles

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

The new mobile Environmental Resource Centre runs on LPG.
Below: The LPG tank of the mobile Environmental Resource Centre

Minimising Waste Transport

To reduce the environmental impact of waste transport to the landfills, seven Refuse Transfer Stations (RTS) have been commissioned to provide an efficient and environmentally acceptable mode of transporting waste. Waste delivered by small refuse collection vehicles (RCV) is transferred at the RTS into bulk waste containers, which are then taken to landfills either by land or by sea.

Each of the waste containers can accommodate the equivalent of three to five RCV-loads. The bulk waste transfer, in particular the marine transfer stations, has significantly reduced the traffic, noise and air emission problems that may otherwise be caused by direct hauling of waste to landfills. In 1999, some 900 trips daily were eliminated. An eighth RTS in the North West New Territories will be commissioned in late 2001.

Refuse transfer stations reduce pollution from the use of a large number of small refuse collection vehicles

Working with Our Contractors and Suppliers

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

Waste Facilities' Contracts

UNDER EXISTING contracts, contractors are required to operate the waste facilities according to stringent environmental requirements. To further improve the quality of new services in 1999, the tenders for the new Refuse Transfer Station to serve the areas of Tuen Mun and Yuen Long required the successful tenderer to develop and obtain ISO14001 EMS certification within 24 months of the contract award. All new waste facilities contracts will have similar ISO certification requirements, and two new contracts will be awarded in year 2000.

Influence on Government

Under the Waste Reduction Task Force for Government, we established a close working relationship with Government Supplies Department (GSD) in 1999 to establish green product specifications for common user items such as paper products. More recycled products and other green items are now available from GSD — and are much more widely used. The GSD now includes in its tenders new requirements to reduce packaging. Another example of our cooperation with GSD is the recycling of lubricating oil. Since 1997, the department has awarded contracts to a local oil recycler to collect waste oil from all government departments, recovering about 500 tonnes per year.

We initiated a study on Environmentally-Responsible Product Specifications for Government Procurement Items in August 1999, which is expected to be completed by year 2000. GSD and EPD will consider the implementation of the findings. Many outside parties, including government departments, statutory bodies, utility companies, green groups, have indicated interest in the findings.

Green products available from GSD

- Refill of cartridges for ink jet and laser printers
- Recycled photocopying paper
- Mercury free alkaline batteries
- CFC-free refrigerators and drinking water dispensers
- Trichloroethane-free correction fluid and thinner
- Refillable ball-pointed pens and refills
- Clutch pencils and refills
- Toilet paper rolls made of recycled paper
- Refill ink for fluorescent markers

Other Suppliers and Service Providers

For out-sourced services, we require our service providers to adopt green measures as much as possible. For example, where hardcopies are unavoidable, consultants are required to submit reports that are environmentally friendly, i.e. double-sided printing, simple binding, no excessive use of plastics, etc. The same goes for the production of the education packs used by our Community Relations Unit. Publicity souvenirs such as clips and rulers must be manufactured from recycled plastics.

Environmental education packs are made from recycled materials

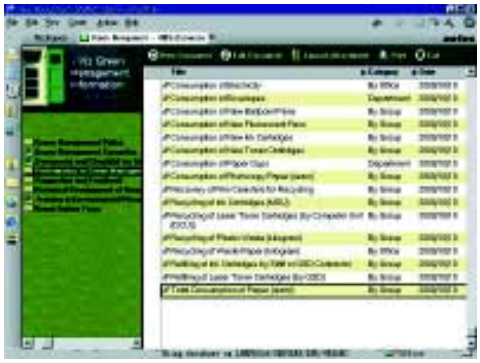
In year 2000, a new mobile Environmental Resource Centre (ERC) will be set up on a vehicle which will be powered by the less polluting LPG fuel, together with the use of solar ventilation fans, and energy-saving bulbs.

To exert further influence on our contractors and suppliers, we will require them to provide information on their environmental performance starting from the year 2000.

Staff Awareness, Training and Participation

FORMAL TRAINING on environmental management began in 1997 and all new staff is briefed on green management as part of their induction course. To ensure our staff have the proper training in environmental management and auditing, a full-day course is now run annually. Up to 1999, some 261 out of about 1,650 staff have attended at least one of such courses. To prepare the WFBU staff for ISO14000 certification, EMS awareness training will be provided to over 200 staff in 2000.

Awareness on environmental matters is enhanced continuously through various means, including the dissemination of relevant information through departmental circulars, postings on Green Corner notice boards, through a green management corner on the departmental computer network and direct e-mails, as well as the staff newsletter EPD Life.



Our staff have easy access to green management information on the departmental computer network

Green labels are posted at strategic locations – e.g. next to light switches and air-conditioning controls – as reminders. Staff found not adopting green practices during surprise inspections by the Green Action Team – e.g. leaving the lights on in an empty room – are sent friendly reminders. Our colleagues are encouraged to contribute ideas on green practices through the staff suggestion scheme – winning proposals receive cash prizes and/or departmental commendations, resulting in some very innovative ideas being adopted. One winning suggestion was a competition amongst the sections, which collected most re-usable paper with only one side printed on. Competitions are popular with the staff and are an excellent means to carry or reinforce messages.Through our staff committee, staff and their families are encouraged to participate in green activities outside the office such as visiting the Mai Po Nature Reserve, joining Dolphin Watch cruises, participating in tree planting programmes, supporting No Plastic Bag Please signature campaigns and taking part in Ride Green days. We will continue promoting these types of green activities.

Green activities are organised to raise the environmental awareness of our staff and their families

Visit to Mai Po

Dolphin Watch

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 the environmental activities

Working with Our Contractors and Suppliers

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

Waste Facilities' Contracts

UNDER EXISTING contracts, contractors are required to operate the waste facilities according to stringent environmental requirements. To further improve the quality of new services in 1999, the tenders for the new Refuse Transfer Station to serve the areas of Tuen Mun and Yuen Long required the successful tenderer to develop and obtain ISO14001 EMS certification within 24 months of the contract award. All new waste facilities contracts will have similar ISO certification requirements, and two new contracts will be awarded in year 2000.

Influence on Government

Under the Waste Reduction Task Force for Government, we established a close working relationship with Government Supplies Department (GSD) in 1999 to establish green product specifications for common user items such as paper products. More recycled products and other green items are now available from GSD — and are much more widely used. The GSD now includes in its tenders new requirements to reduce packaging. Another example of our cooperation with GSD is the recycling of lubricating oil. Since 1997, the department has awarded contracts to a local oil recycler to collect waste oil from all government departments, recovering about 500 tonnes per year.

We initiated a study on Environmentally-Responsible Product Specifications for Government Procurement Items in August 1999, which is expected to be completed by year 2000. GSD and EPD will consider the implementation of the findings. Many outside parties, including government departments, statutory bodies, utility companies, green groups, have indicated interest in the findings.

Green products available from GSD

- Refill of cartridges for ink jet and laser printers
- Recycled photocopying paper
- Mercury free alkaline batteries
- CFC-free refrigerators and drinking water dispensers
- Trichloroethane-free correction fluid and thinner
- Refillable ball-pointed pens and refills
- Clutch pencils and refills
- Toilet paper rolls made of recycled paper
- Refill ink for fluorescent markers

Other Suppliers and Service Providers

For out-sourced services, we require our service providers to adopt green measures as much as possible. For example, where hardcopies are unavoidable, consultants are required to submit reports that are environmentally friendly, i.e. double-sided printing, simple binding, no excessive use of plastics, etc. The same goes for the production of the education packs used by our Community Relations Unit. Publicity souvenirs such as clips and rulers must be manufactured from recycled plastics.

Environmental education packs are made from recycled materials

In year 2000, a new mobile Environmental Resource Centre (ERC) will be set up on a vehicle which will be powered by the less polluting LPG fuel, together with the use of solar ventilation fans, and energy-saving bulbs.

To exert further influence on our contractors and suppliers, we will require them to provide information on their environmental performance starting from the year 2000.

Staff Awareness, Training and Participation

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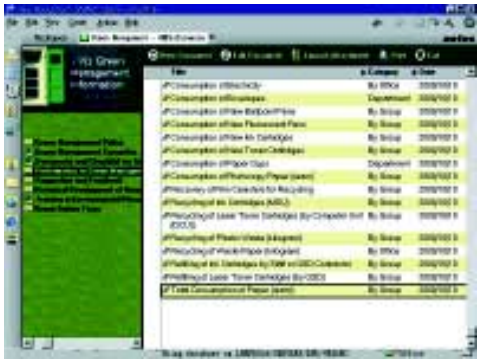

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Looking Ahead

Major Initiatives under EPD's Programmes:

Reporting areas	Targets
Contribution to strategic decision-making	• To issue study briefs on strategic environmental assessments for a major planning proposal, Hong Kong 2030: Planning, Vision and Strategy, before the first quarter of 2001. • To complete the management of the strategic environmental assessment for the Second Railway Development Strategy in 2000 to provide adequate environmental information for public consultation and informed decision.
Prevention and Mitigation through Environmental Impact Assessment	• To minimise impact on some 200,000 people from railway lines, roads, reclamation sites, etc. through the statutory EIA process, strategic environmental assessment and environmental planning studies in 2000. • To allow public access to environmental monitoring and audit information of major development projects through the Internet by 2001.
Better Air Quality	• To start the LPG taxi incentive scheme in 2000. • To require all newly registered taxis to use LPG fuel from 2001. • To implement in 2000 a programme to retrofit pre-Euro light diesel vehicles with devices to reduce emission of particulates. • To conduct a trial of LPG and electric light buses in 2000. • To retrofit diesel catalysts to heavy duty diesel vehicles in 2000. • To increase the fixed penalty fines to $1,000 for vehicles emitting black smoke. • To expand the joint effort with the Police in 2000 to control smoky vehicles. • To include an emission test in the roadworthiness inspection of petrol and LPG vehicles starting from 2000. • To extend the use of dynamometers in testing smoke from heavy duty vehicles in 2000. • To introduce ultra-low sulphur diesel fuel for vehicles in 2000. • To introduce the most stringent Euro III emission standards for new vehicles in 2001. • To promote the Indoor Air Quality Certificate Scheme to improve indoor air quality in 2000. • To introduce measures for controlling perchloroethylene emissions from dry cleaning facilities in early 2001. • To strengthen liaison with Guangdong authorities in tackling regional air pollution.
Environmentally-Sound Waste Management	• To facilitate local recycling activities through suitable support measures in 2000, e.g. land allocation under short-term tenancy agreements, the development of waste minimisation or recycling technology under the Demonstration Scheme funding. • To develop plans for incorporating materials recovery/recycling facilities into the municipal solid waste management system. • To commence development of a Waste Management Plan (2002 - 2021) in 2000. • To continue preparations for implementing a charging scheme for the disposal of non-household waste at landfills. • To complete a review of alternative treatment technologies for clinical waste by the end of 2000. • To review the framework for assessing contaminated land in 2000.

Better Water Quality	• To set up an International Review Panel to review the remaining stages of SSDS in 2000. • To complete the Environmental Impact Assessment for Strategic Sewage Disposal Scheme (SSDS) Stage II in 2000. • To progress with the review of Sewerage Master Plans and begin two new reviews in 2000. • To start consultation on the review of the Technical Memorandum to the Water Pollution Control Ordinance in 2000. • To complete our contribution for the State Oceanic Administration's 2nd National Marine Pollution Baseline Survey. • To prepare for the HKSAR's participation in China's National Marine Environment Monitoring Network by mid 2001.
Quieter Environment	• To review 130 planning schemes and strategic proposals to minimise noise problems for around 55,000 people in 2000. • To work with relevant departments to commence a trial scheme in urban areas to minimise traffic noise through traffic management in 2000. • To work with Territory Development Department and Highways Department on the provision of noise insulation to protect 500 dwellings near five new road projects in 2000. • To commence a public consultation exercise on the control of domestic renovation noise by the first quarter of 2001. • To complete a review on the control on daytime construction noise in 2001.
Waste facilities & landfill restoration	• To complete a feasibility study on extending existing landfills and identifying suitable sites for developing new waste disposal facilities in 2001. • To invite private sector participation in 2000 to develop facilities for composting of organic waste. • To commission the Refuse Transfer Station in the Northwest New Territories in 2001. • To complete upgrading of the Interim Grease Trap Waste Treatment Facility at the Western New Territories Landfill to handle the increasing intake of grease trap waste in 2000. • To complete restoration work at five landfills located at Northwest New Territories, Gin Drinkers Bay and Ngau Chi Wan in 2000.
Building Partnerships	• To carry out programmes on the Work Plan for 2000 with the Canadian Government.
Environmental awareness & education	• To organise 120 environmental awareness and education programmes with 1,600 green groups, schools and community groups; to deliver 400 environmental talks; and arrange 330 guided visits to the Visitors Centre and Environmental Resource Centres in 2000. • To conduct three environmental education training workshops for 150 primary teachers in 2000-2001. • To extend Phase IV of the Waste Recycling Campaign in Housing Estates for 2000-2001 to 300 additional housing estates. • To invite 500 schools and 8,000 students to join the Student Environmental Protection Ambassador Scheme. • To train 1,000 members from the community groups to be environmental ambassadors by the end of 2000-2001.

Contribution to sustainable development	• To complete the management of a territory-wide Environmental Baseline Study for public dissemination in early 2001. • To improve the help desk service to provide specific advice and assistance to government departments on preparation of environmental reports in 2000.
Emergency response	• To run at least one territory-wide emergency drill with other government departments in 2000-2001. • To set up an Emergency Response Information Database centrally in Local Control Division in 2001. • To conduct a seminar by early 2001 to share our experience with local and overseas experts.

Initiatives to strengthen the environmental performance of our internal operations

Reporting areas	Targets
Corporate environmental management	• To obtain ISO 14001 certification for the Waste Facilities Business Unit in 2000. • Each Green Action Team at the 13 EPD offices to carry out at least one self-audit on their green management practices in 2000. • To complete departmental green management audits on at least ten EPD offices.
Reduction of pollution & hazards	• To continue the close supervision of our waste facilities contractors aiming for 100% compliance with both the legal and contractual environmental requirements. • To achieve 100% compliance with the legal and departmental environmental requirements in our laboratories and field operations.
Greener office	• To keep the consumption of paper and electricity at 1999 levels. • To conduct a survey on the major sources of paper and electricity consumption in 2000 and set reduction targets for 2001. • To introduce the Phase I of the electronic workflow project in 2000 to reduce paper-based transactions in our offices. • To minimise the number of hard copies of reports submitted to EPD by also requiring the submission of electronic versions in 2000
Greener transport	• To device internal Green Transport Plans for our operations to promote greater use of efficient and environmentally-friendly means of transport by 2001.
Greener contractors & suppliers	• To require contractors of the 2 new waste management facilities to obtain ISO 14001 Environmental Management System certification within two years of contract award. • To develop jointly with the Government Supplies Department environmentally responsible product specifications for 31 common items in use government-wide in 2000. • To introduce a requirement to supply environmental information on products and services out-sourced from contractors and suppliers in 2000.
Staff awareness, training & participation	• To provide awareness training on Environmental Management System to WFBU staff in 2000 for preparation of ISO 14001 certification. • To convert the Green Management Corner to the new departmental computer platform to facilitate greater access by all staff in 2000. • To mobilise each division to organise at least one activity in 2000 to enhance staff awareness about environmental and green management issues.

VERIFICATION STATEMENT

Verification Objectives

BMT Asia Pacific Limited was commissioned by the Environmental Protection Department (EPD) of the Hong Kong SAR Government to conduct an independent verification of *EPD's Environmental Performance Report 2000*. The objectives were to verify claims made in the report and the systems for data collection. We were also asked to assess the scope of the report in terms of its coverage of EPD's significant environmental aspects and to provide recommendations for improving future reports.

Approach to Verification

This statement represents a wholly independent opinion of *Environmental Performance Report 2000*. BMT Asia Pacific was not involved in the preparation of any aspect of the report. In conducting the verification, site visits and meetings were held with professional and technical staff. At these meetings, specific claims were discussed and substantiated, and data was sampled and examined. Meetings were also held with senior managers responsible for the main environmental areas covered by the report.

Accuracy of the Report

We have investigated the following aspects of the main report text and found them to represent an accurate account of EPD's actions and performance in the past year

- Environmental programme implementation and facility operation;
- Legal compliance;
- Awareness, training and communication; and
- Target setting.

We have also reviewed the system for the collection of the data presented in the report. We have found the system robust and effective, with information consistently reported according to the specified parameters for data collection.

Scope of the Report

Environmental Performance Report 2000 provides a good account of performance with respect to EPD's main areas of responsibility and key programme areas.

While EPD has a long history of reporting on the state of Hong Kong's environment, this report represents the first time the Department has reported on its own environmental performance. The report includes information on the main impacts arising directly from EPD's activities and operations and EPD's environmental performance in areas such as legal compliance and resource use. In areas relating to the implementation of the legislative framework to control pollution and to EPD's internal environmental performance, clear linkages between commitments in EPD's Environmental Policy and the achievement of results have been identified.

The report also covers the Department's role in programme implementation and in influencing others within Government, business and the community to improve their environmental performance. In this regard, EPD's first environmental performance report is a significant achievement and it stands at the forefront of international reporting by a government body.

Recommendations for Future Reports

In future reports, EPD is encouraged to present the performance of the Department against its policy and programme goals in a systematic way. Commitments in the Environmental Policy should be comprehensively and clearly linked to the achievement of environmental benefits and/or the prevention, minimisation and control of impacts arising from EPD's programmes and actions. EPD is also encouraged to clarify the linkages between the Department's activities and the furthering of sustainable development, in which it plays an important role on behalf of the Hong Kong SAR Government.

While a significant number of targets have been included in this report, EPD should pay special attention to the setting of meaningful, measurable targets which are challenging and extend beyond the implementation of programmes to include measures for assessing the overall effectiveness of EPD's performance in programme delivery.

Recommendations for EPD

The programmes implemented by the Department to control and minimise environmental impacts arising from EPD's activities, and to improve the environmental performance of the Government, business and the community, are commendable.

Following the lead of EPD's Waste Facilities Business Unit, the Department is encouraged to extend its existing environmental management system (EMS), which includes a rigorous environmental auditing scheme, to meet the requirements of the ISO 14001 EMS Standard where relevant and appropriate. This, along with the recommendations above for improving future reports, will enhance EPD's ability to systematically address its environmental performance and reporting initiatives, and will further the Department's ongoing commitment to environmental improvement.

Norman J. Di Perno
Senior Vice President, BMT Asia Pacific Limited