

ENVIRONMENTAL PERFORMANCE REPORT 2002



環境保護署

Environmental Protection Department

The Government of the Hong Kong
Special Administrative Region

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Foreword



This is the third environmental performance report produced by the EPD and the fact that readers cannot hold it in their hands is a sign of our efforts to improve our operations. Only Internet and CD-ROM versions have been made available, as part of our drive to reduce paper consumption. Paper use is a minor area of concern for the EPD, but it is highly symbolic of how we can control our impacts on the environment.

Our main work is focused on improving Hong Kong's overall environment and in 2001 we achieved measurable improvements in air and water quality. We also undertook a number of initiatives to reduce waste (for full details of our policies and programmes, see Environment Hong Kong 2002). Additionally, we continued to contribute to the development of the environmental management profession in Hong Kong and elsewhere, by organising conferences, seminars and other events on a variety of issues.

Internally, we looked more closely at our environmental management system (EMS) and its compatibility with ISO 14001 requirements. A gap analysis concluded that the focus of our EMS needed to shift from green housekeeping to management of the overall environmental performance of our internal operations. We are now reviewing ways to make our EMS more effective and thus improve our environmental performance.

On green housekeeping, we managed to reduce paper consumption by 16.6 per cent in 2001, after a slight increase in 2000, thanks to staff efforts to reduce paper use and to increase the use of electronic communication. However, electricity consumption was up slightly, mainly due to increases in our workload and the operating hours of air-conditioning equipment for our new servers.

The EPD will continue to look for ways to reduce its impacts on the environment, whether it is paper use, electricity consumption or the operation of landfills. Our targets at the end of this report indicate where we want to make improvements in 2002, but we also welcome readers' feedback. If you have any comments to make on this report, please e-mail us (enquiry@epd.gov.hk) or use the feedback form in this report.

A handwritten signature in blue ink, appearing to be 'R.J.S. Law'.

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

Environmental Policy

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.

Environmental Policy

Sustainable Development

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

Communication

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

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

Organisation, Programmes and Responsibilities

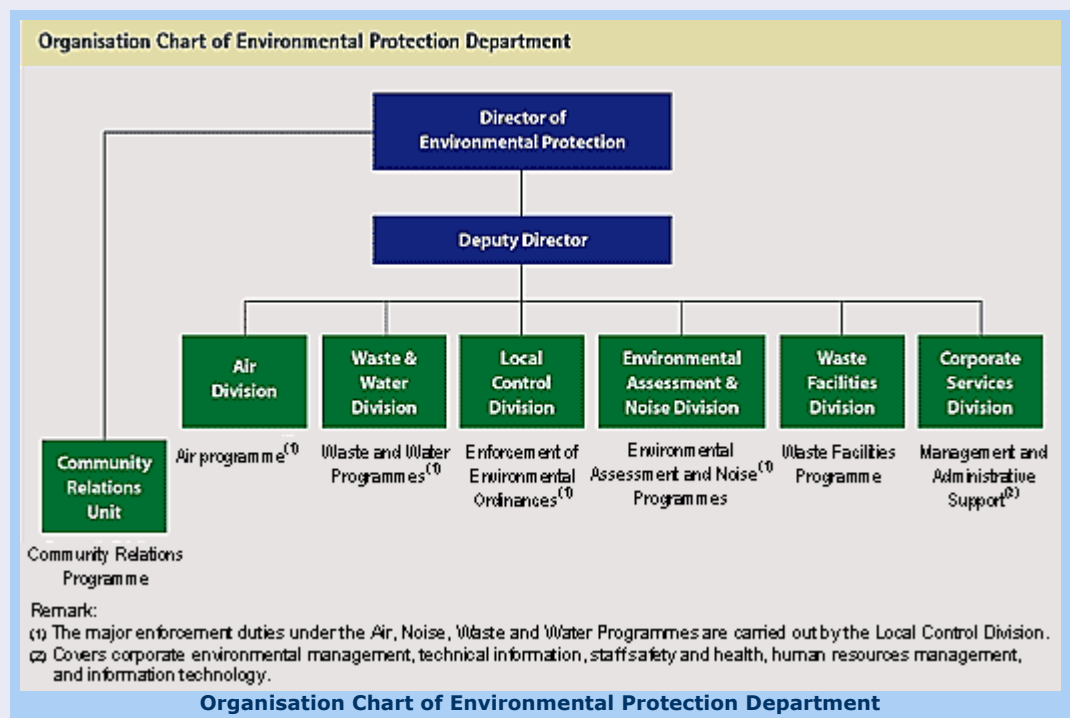
Our Vision is of a Hong Kong which enjoys an environment that is both healthy and pleasant, in which the community places a premium on sustaining such an environment both for themselves and for future generations

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

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

In 2001, out of a departmental expenditure of \$2.496 billion, 47.5 per cent was for contract payments for the treatment and disposal of municipal and chemical wastes, 30.1 per cent was for staff costs, 17.9 per cent was for capital expenditure and 4.5 per cent was for general operating expenses.

The department had an establishment of about 1,600 staff in 2001. About 26 per cent are professionals, about 45 per cent are technical-grade staff and the remaining 29 per cent are administrative and support staff.



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

Organisation, Programmes and Responsibilities

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

Air Programme

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

Community Relations Programme

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

Environmental Assessment and Planning Programme

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

Noise Programme

- Prevent, minimise and resolve noise problems through intervention in the planning process.

Waste Programme

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

Waste Facilities Programme

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

Water Programme

- Develop plans and programmes to ensure the quality of inland and marine waters meets with our conservation goals.
- Formulate and implement sewerage and sewage treatment systems that operate safely and effectively.
- Enforce the Water Pollution Control Ordinance.
- Enforce the Noise Control Ordinance.

Our Mission is to contribute towards realising this vision by applying our professional knowledge, judgement and experience to formulate and implement plans to improve and safeguard the environment, to increase community awareness of environmental issues, to implement environmental protection legislation, and to participate in the town planning process to achieve and maintain a high standard of environmental quality

EPD Offices and Facilities

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)
- Visitors Centre (1)
- Laboratories (5)
- Vehicle Emission Testing Centre (1)
- Monitoring Vessel (1)



Tsing Yi Chemical Waste Treatment Centre



Island West Transfer Station



Vehicle Emission Testing Centre



Sha Ling Livestock Waste Composting Plant



Restored Shuen Wan Landfill



14 Air Quality Monitoring Stations



Local Control Office (Territory East)



South East New Territories Landfill



Chemical Laboratory at Revenue Tower



Wan Chai Environmental Resource Centre



Marine Monitoring Vessel

Our Influence and Impact on the Environment

The Department's contribution towards improving the environment

Main Activities	Environmental Results
Contribute to the formulation of major policies and plans within the Government	<ul style="list-style-type: none"> ■ Environmental impact of policies, strategies and planning proposals minimised ■ Sustainability incorporated in decision-making process
Develop and implement environmental improvement programmes	<ul style="list-style-type: none"> ■ Direct improvements in: <ul style="list-style-type: none"> ■ Air quality ■ Noise mitigation ■ Water quality ■ Waste management
Plan and provide waste management facilities	<ul style="list-style-type: none"> ■ Waste handled and disposed of in an environmentally responsible manner
Establish regulatory control framework and enforce environmental ordinances	<ul style="list-style-type: none"> ■ Air, water, waste and noise impacts from polluting activities are reduced
Build partnerships and engage stakeholders	<ul style="list-style-type: none"> ■ Better co-operation gained from all sectors in improving the environment
Promote environmental awareness and public participation	<ul style="list-style-type: none"> ■ Increased awareness and support given to preventing and tackling environmental problems
Support research and professionalism in the environmental disciplines	<ul style="list-style-type: none"> ■ Professional contribution to environmental management in Hong Kong enhanced

Our Influence and Impact on the Environment

Environmental impact of our own operations

Operations and Services	Effect and Environmental Impact
Waste Collection, Transfer and Disposal Services	Discharge of wastewater and leachate <ul style="list-style-type: none"> ■ Pollution of receiving water bodies
	Emission of landfill gas <ul style="list-style-type: none"> ■ Potential fire and other hazards to human life
	Environmental nuisance <ul style="list-style-type: none"> ■ Noise, odour and visual impact
	Exhaust emission from on-site treatment facilities, vehicles and vessel fleets <ul style="list-style-type: none"> ■ Air pollution and contribution to greenhouse gas emissions
	Consumption of fuel and electricity <ul style="list-style-type: none"> ■ Air pollution and contribution to greenhouse gas emissions
Laboratory Services	Exhaust emission from fume cupboards and safety cabinets <ul style="list-style-type: none"> ■ Air pollution impact
	Wastewater discharge <ul style="list-style-type: none"> ■ Pollution of receiving water bodies
	Accidental chemical spillage <ul style="list-style-type: none"> ■ Potential hazards to human life
	Generation of chemical and biological wastes <ul style="list-style-type: none"> ■ Residual pollution from waste treatment processes
Field Work	Fuel consumption and emissions from vehicles/vessels <ul style="list-style-type: none"> ■ Air pollution and contribution to greenhouse gas emissions
	Use of chemicals <ul style="list-style-type: none"> ■ Contamination of soil and water bodies
	Disposal of samples <ul style="list-style-type: none"> ■ Residual pollution from waste treatment processes
Office Activities	Consumption of energy and resources (electricity, paper, water, stationery, etc.) <ul style="list-style-type: none"> ■ Air pollution and contribution to greenhouse gas emissions ■ Depletion of resources
	Generation of solid waste <ul style="list-style-type: none"> ■ Increased demand for landfill disposal

Our Contribution to Strategic Decision-Making

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

The EPD works closely with other government departments and stakeholders to promote sustainable development and build consideration of the environment into the Hong Kong SAR's decision-making process.

Input on Major Policies and Strategies

Environmental indicators for sustainability are used to give a broad-brush assessment of major strategic proposals and policies. With input from the EPD and other concerned departments, a set of indicators was developed under the "Study on Sustainable Development for the 21st Century" for the government in 2001. The indicators include such things as energy consumption, biodiversity, carbon dioxide emissions and the percentage of people exposed to excess noise. They do not replace EIAs, which go into greater detail, but complement them. One major policy to be assessed is Hong Kong 2030: Planning, Vision and Strategy which will update the existing physical planning framework and guide the long-term development of Hong Kong. The indicators will be applied to other policies and strategies as determined by the Sustainable Development Unit, which the government set up in 2001.



The EPD also reviews the environmental implications paragraphs which are required in all policy submissions to the Executive Council and in submissions made to the Public Works Sub-committee of the Legislative Council for funding approval of public projects. In 2001, we reviewed 150 such submissions. These paragraphs help to integrate environmental considerations into the decision-making process.

Regional Work

Sustainability for Hong Kong cannot be achieved without co-operation with our regional partners. Hong Kong and Guangdong participate in the Joint Working Group on Sustainable Development and Environmental Protection and its related special panels. The working group aims to reach a consensus by end of April 2002 on a plan to implement long-term measures to improve the air quality of the region.

On water pollution, Hong Kong and Guangdong environment officials have co-operated on action plans to control pollution in Deep Bay and Mirs Bay, and coral cover within Mirs Bay is increasing. They are also co-operating in the development of a water quality model for the Pearl River Delta. A project co-ordinator has been appointed to assist the study team and gather information before a model contractor is appointed. Additionally, the EPD is liaising with the State Oceanic Administration on the HKSAR's participation in the National Marine Environmental Monitoring Network. The Network is being restructured and Hong Kong will participate after this is completed, some time in 2002.



Promotion of Environmental Performance Reporting within Private Sector

In 2000, all government departments and bureaus were required to start producing annual environmental performance reports. In 2001, the EPD used the experience gained in that exercise as the basis for producing a guidebook on corporate environmental performance reporting for the private sector. The EPD also disseminated local and international experiences to the private sector at a seminar in September 2001 that attracted more than 100 organisations. This is part of an on-going effort to promote better environmental management in the private sector.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).

Planning for a Better Environment

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

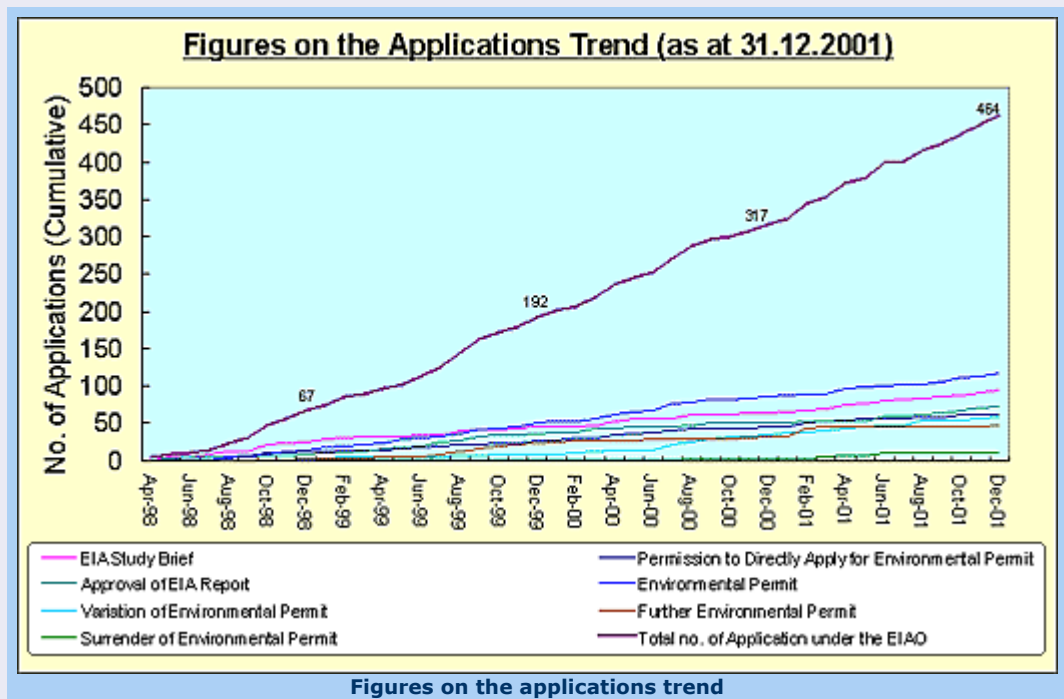
Prevention and Mitigation through Environmental Impact Assessment

The EPD seeks to intervene at the earliest stages of projects to protect people and the environment from adverse impacts. It also aims to engage stakeholders in the process by creating opportunities for them to give their views and gain access to information about specific projects.

Environmental Impact Assessment Ordinance

The Environmental Impact Assessment Ordinance (EIAO) came into effect in 1998 and requires all designated projects to undergo EIAs. In 2001, the EPD received 146 applications for projects worth \$62 billion, processed 13 environmental reports and issued 61 environmental permits. The EIAO aims to avoid or mitigate against impacts before projects are built, and the impact avoidance measures contained in the applications approved in 2001 will eventually benefit approximately 157 000 people. The EPD also managed 163 environmental monitoring and audit programmes.

Examples of EIAs in action in 2001 include the requirement for land at the old Kai Tak airport site to be decontaminated to protect more than 130 000 present and future residents, and the requirement of noise control measures for the new Kowloon Stadium. A retractable roof is being recommended so noise can be contained. In July 2001 the EIAO Appeal Board upheld the EPD's decision not to approve the EIA report for a rail spur line to run through Long Valley in a viaduct form, and therefore not to issue an environmental permit.



Public Input

All EIA reports and decisions are placed on our website, making them accessible to the public. In 2001 the website received 69 654 hits. Additionally, it became mandatory in 2001 for all environmental monitoring and audit data to be uploaded to a project-specific web page, along with a description of the project. This gives the public access to information about a project's impacts while it is being built or operated.

Planning for a Better Environment

Prevention and Mitigation through Environmental Impact Assessment

Community Links

The EPD set up four liaison groups in 2000 to develop a line of communication on matters relating to the EIAO. The groups are all users of the ordinance and include government departments, private and public corporations, consultants, and contractors. In 2001, the groups provided input on EIAO guidance notes, the first of which was published during the year. A total of eight guidance notes have been drafted and will be published.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).

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

Planning for a Better Environment

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

Better Air Quality

Air pollution is a high priority for the EPD and in 2001 we continued to put much effort into reducing reliance on diesel vehicles and controlling pollution from the remaining diesels.

Monitoring

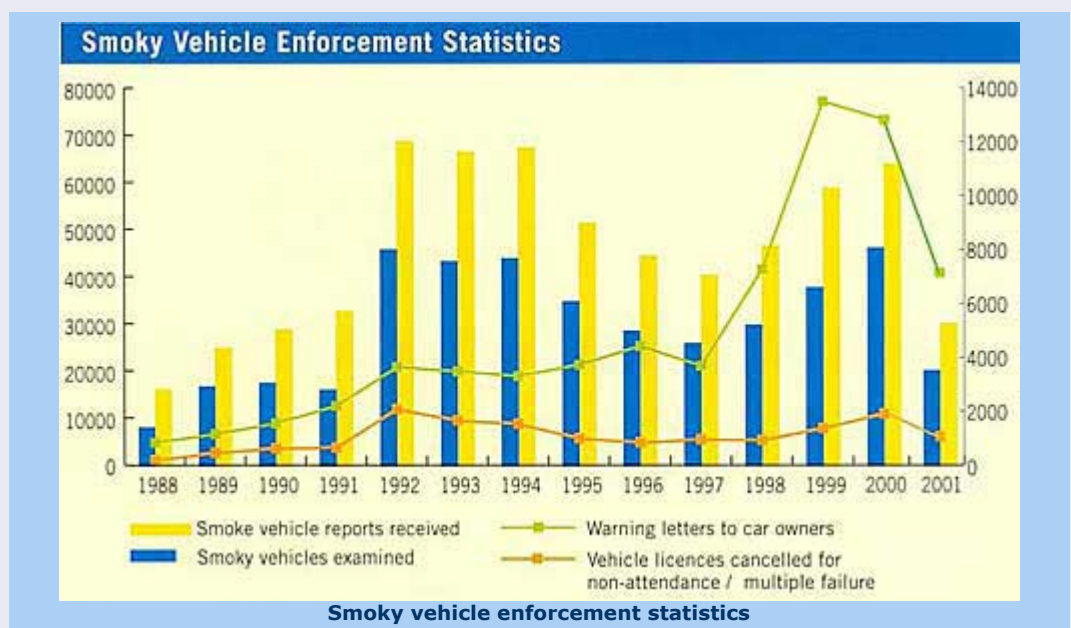
The EPD monitors air quality at 14 fixed stations. In 2001, 9 stations met the long-term Air Quality Objectives for all pollutants. As for short-term Air Quality Objectives, the number of instances the Air Pollution Index reading exceeded 100 at these stations has dropped by 45 per cent since 1999. The concentrations of two diesel-related pollutants, respirable particulates and nitrogen oxides, at roadside level have dropped by 8 per cent and 11 per cent respectively since 1999. The decrease would have been greater had it not been for two unusual weather events. A severe dust storm blew in from the Mainland in March, pushing up particulate levels, and Typhoon Nari hovered near Taiwan for two weeks in September, creating stationary weather conditions here that enabled pollution levels to rise.

Motor Vehicle Pollution

Our programme to switch all taxis to liquefied petroleum gas (LPG) by early 2007 has made good progress and about 80 per cent of taxis have made the switch. A trial on LPG and electricity for public light buses was completed successfully in 2001, and the government is consulting the trade on financial incentives for operators to make the switch.



Controls on the remaining diesel vehicles continued to be introduced. Chassis dynamometer smoke tests for heavy vehicles, which test emissions under real driving conditions, were introduced on a voluntary basis in late 2000 and will become mandatory in January 2002. Eighty per cent of light diesel vehicles imported before 1995, when vehicle emission standards started being tightened, have been retrofitted with particulate traps. Euro III standards for vehicle engines, which control emissions, are required for all newly-registered vehicles. For the Smoky Vehicle Control Programme, the EPD received about 50 per cent fewer reports of smoky vehicles over 2000, even though there are more than double the number of spotters, including trained Police, on the road.



Planning for a Better Environment

Better Air Quality

Other Air Quality Issues

The EPD implemented a regulation on dry-cleaning machines from November 1, 2001, requiring machines to meet the EPD's standards for controlling the release of perchloroethylene into the air. An Indoor Air Quality Information Centre was open in January 2001 to provide information to the general public and professionals on indoor air quality. A certification scheme for Indoor Air Quality will be introduced and promoted as a voluntary scheme in 2002. The EPD also worked with counterparts on the Hong Kong-Guangdong Joint Working Group on Environmental Protection and Sustainable Development on a study of regional air pollution. The target of the two governments is to reach a consensus by end of April 2002 on a plan to implement long-term measures to improve the air quality of the region.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).



Indoor Air Quality Information Centre



Pamphlet-dry-cleaning machines

Planning for a Better Environment

Quieter Environment

We aim to maintain an acceptable acoustic environment for the community through planning and other controls. These include advising on technical solutions for potential noise problems, as identified during the land-use planning and potential housing development site review 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.

Traffic Noise

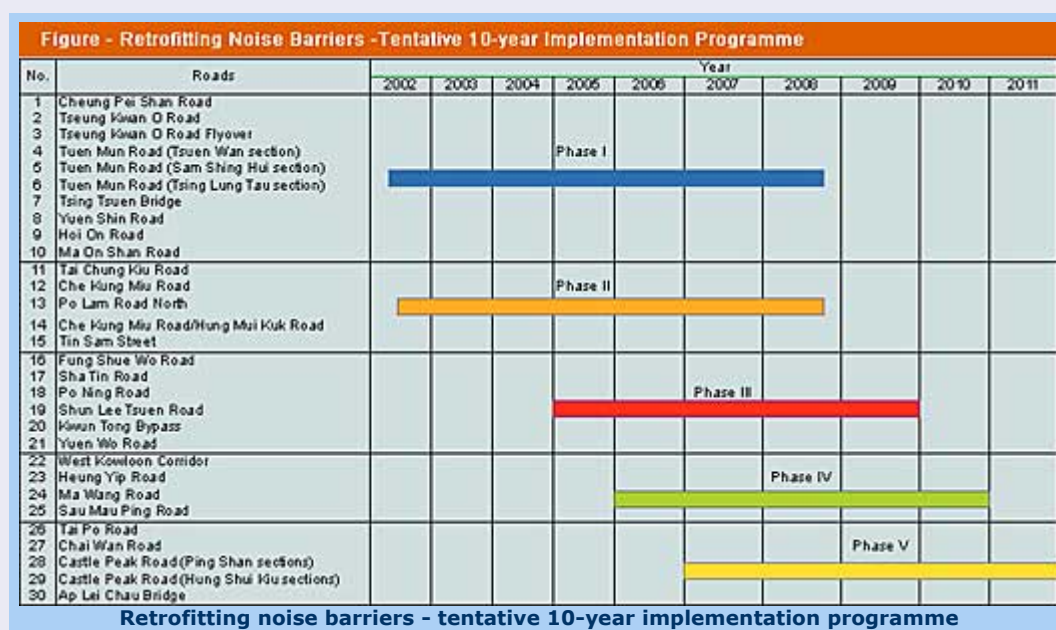
We have been making progress in planning against traffic noise from new roads to avoid adverse noise impacts on sensitive receivers (see below). Notwithstanding this, in 2000 we participated in the formulation of a new policy to reduce noise from existing roads. Thirty roads were deemed suitable for noise barriers or enclosures and 72 roads were deemed suitable for low-noise surfacing. Another 550 roads still have unacceptable noise levels. The Legislative Council has been briefed on the new policy and in 2001, preparations got underway on the design tendering works for retrofitting noise barriers and low-noise surfaces where applicable. Both programmes will start in 2002. Subject to funding allocation, the low noise resurfacing is expected to be completed in 3 years while the retrofitting barrier work is expected to be completed in 10 years. The noise barriers are expected to benefit 25 000 residential units and the low-noise surfacing will benefit 40 000 residential units.



Photo montage of proposed noise barrier to protect residents of Tsui Ping Estate South, Kwun Tong

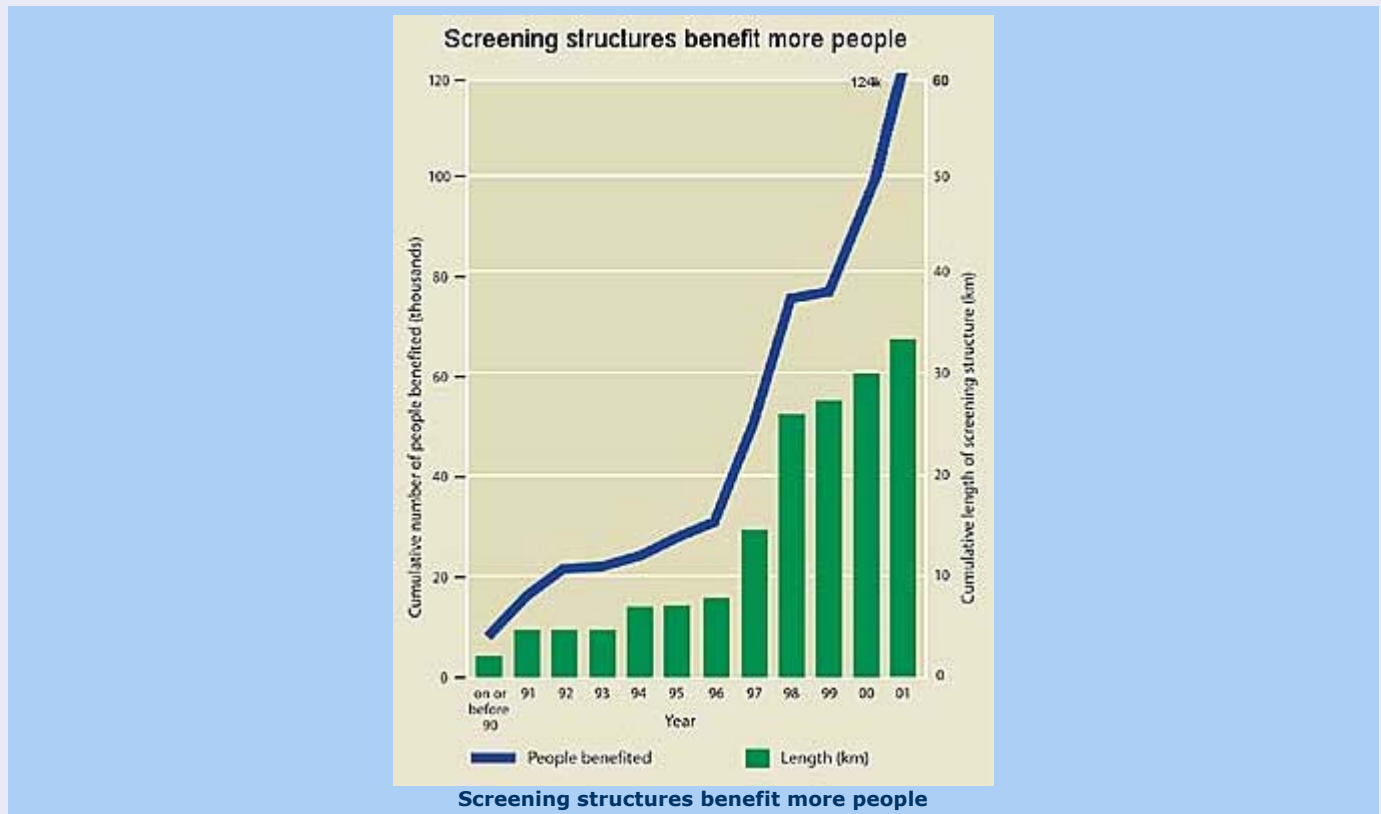
In the ongoing programme for new roads, many noise barriers and enclosures and low-noise surfaces have already been fitted. From 1986 to the end of 2001, about 34 kilometres of noise barriers and enclosures were erected on new roads, protecting some 24 000 dwellings from excessive traffic noise. Acoustic insulation and air-conditioners have been provided to about 6 700 flats exposed to excessive road noise.

In 2001, we formulated a proposal to further tighten the noise standards for newly registered motor vehicles and will follow up with the corresponding legislative amendment in 2002.



Planning for a Better Environment

Quieter Environment



Construction Noise

The community has been offered wider protection through expansion of the Noise Control Designated Areas, which are subject to tighter construction noise control, to include newly-developed areas such as new towns. We completed a review of daytime construction noise and domestic renovation noise in 2001 and a proposal to control more noisy construction equipment is being considered.

Others

In order to promote community understanding of environmental noise and how people can reduce it, we shall produce an educational package in 2002. It will be released onto the EPD's website and in the form of CD-ROMs to be distributed to schools and made available at District Offices to enhance public awareness. We will also commence a study into the effects of environmental noise on the general well-being of people and their quality of life.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).

Planning for a Better Environment

Controlling Water Pollution

Water pollution is a long-standing problem in Hong Kong. Rivers, streams, bays and marine waters have all been affected by sewage, industrial effluent and livestock waste. Various programmes are in place to control the problem. In 2001, two issues were dominant: the Harbour Area Treatment Scheme (HATS), which has been a subject of public debate over the type of treatment to be used, and cross-border co-operation with authorities in Guangdong.

Water Quality in 2001

Water quality is monitored in marine waters, rivers and streams, and beaches. For marine waters, the overall percentage compliance with the Water Quality Objectives in 2001 was 79% which was similar to the average figure in the past ten years. For rivers and streams, the figure was 83 per cent as against 82 per cent in 2000 - although much progress has been made over the last decade, it is proving very difficult to remove the residual pollution. Beach water quality showed a slight decline, probably due to heavy rains in the summer. Five of the 41 gazetted beaches were graded poor in 2001 and two were very poor, as against six poor in 2000 and none very poor. From 2001, three beaches - Clear Water Bay Second Beach, Deep Water Bay Beach and Golden Beach - were open year-round. The EPD started monitoring them weekly even in the winter months and grading them year-round.

Harbour Area Treatment Scheme

The first stage of HATS came into full operation in late 2001, when the deep sewage tunnels leading to the sewage treatment plant on Stonecutter's Island were commissioned. The plant now treats 70 per cent of the sewage around the harbour. The tunnels link it to the Kowloon Peninsula, Tsuen Wan, Tseung Kwan O, Kwai Chung, Chai Wan and Shau Kei Wan. An extensive monitoring programme is in place to measure improvements in the harbour's water quality and should produce reliable results by July 2002. Water quality is expected to improve in the central and eastern parts of the harbour, but may deteriorate for some parameters in the western part of the harbour where the treated effluent from Stonecutter's is discharged.

The Stonecutter's plant provides chemically-enhanced primary treatment but an International Review Panel of HATS concluded at the end of November 2000 that this was not good enough to protect the environment. The panel recommended biologically aerated filter (BAF) treatment and four options for treatment plants: conduct all treatment at Stonecutter's; conduct treatment at two plants at Stonecutter's and Lamma Island; conduct treatment at two plants at Stonecutter's and Sandy Bay; or conduct treatment at three plants at Stonecutter's, Sandy Bay and North Point. The high quality effluent would be discharged into the harbour, rather than via a long deep-sea outfall as originally planned.

The government has accepted most of the recommendations and is moving forward with the follow-up studies. Five studies are being undertaken: an environmental and engineering investigation into each option, which will take two years to complete; a trial of BAF treatment in Hong Kong; a study on the fastest way to get HATS built; and two minor studies on the capacity at Stonecutter's for expansion and a reassessment of the flow capacity of the tunnels. The results of all five studies should be known by the end of 2003 and will be made public.

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

Planning for a Better Environment

Controlling Water Pollution

Other Sewage Work

Sewerage master plans describe where sewers are needed and they are being reviewed in light of an expected growth in population. The plans for Central and East Kowloon, Tuen Mun and Tsing Yi, and the Outlying Islands were substantially completed in 2001. Plans for North District and Tolo Harbour, and Hong Kong Island, are underway and targeted to be completed in 2002. After the completion of the studies, these projects will be handed over to Drainage Services Department for implementation.

280 unsewered areas (including villages) have been identified for provision of public sewers, with a target of progressive completion by 2009/10. This is a slow process given the number of small houses and unwilling home owners. From 1996 to the end of 2001, 56 villages and unsewered areas were connected through our sewerage programme. Work began during the year on a \$70 million programme to solve the odour problem from the Shing Mun River by treating its sediment. A study on biological indicators for monitoring the marine environment was awarded during the year and will be completed by 2003. Amendments to simplify the Technical Memorandum on Effluent Standards under the Water Pollution Control Ordinance went out for consultation in September 2000 and are expected to be tabled in the Legislative Council in 2002.

Regional Efforts

Hong Kong worked with Mainland partners on water pollution issues during the year. Staff from the EPD and from the Shenzhen Environmental Protection Bureau developed a pollution load inventory for Mirs Bay to determine what types of pollution are entering the water body and where the pollution is coming from. The results will be fed into a water quality model, which in turn will be used to draft a pollution-control strategy for the area.

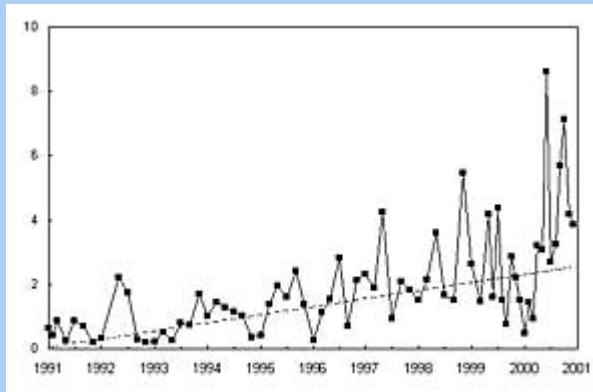
Through the Pearl River Delta Region Water Quality Protection Special Panel under the Joint Working Group on Sustainable Development and Environmental Protection, environment officials from both sides have begun developing a water quality model for the Pearl River Delta. So far, a project contractor has been appointed to assist the study team and to gather vital information before a contractor is to be appointed in December 2002 to develop the water quality model.

The EPD is currently liaising with the State Oceanic Administration on Hong Kong's participation in the National Marine Environment Monitoring Network. Method validation and other preparation work started in 2001. The Network is now undergoing restructuring and Hong Kong's participation will hinge on the outcome of the restructuring and further discussion with the State Oceanic Administration.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).

Planning for a Better Environment

Controlling Water Pollution



Algal pigment (Chlorophyll-a) is increasing in inner Mirs Bay, a sign of pollution.



A modelling grid is superimposed on an aerial photo of Mirs Bay, to help in assessing the impacts of water pollution.



Officials from Shenzhen and the EPD meet to discuss water quality in Mirs Bay.



Hong Kong and Shenzhen officials pay a joint visit to a new treatment plant under construction in the Yantian area of Shenzhen.

Planning for a Better Environment

Environmentally Sound Waste Management and Facilities

Waste management remains a major challenge for the EPD. Landfills are filling up more quickly than originally planned. We are trying to find a more sustainable system for managing wastes that looks at waste reduction and recycling, but it will not be enough to extend the landfills for any appreciable length of time. Our efforts are concentrated instead on laying foundations for the future.

In 2001 we handled 6.1 million tonnes of waste at landfills including 2.3 million tonnes of construction waste. We also manage livestock and chemical waste, sewage and water treatment sludge, and other difficult wastes.

Waste Reduction

Landfill space will run out in 10 to 15 years. The Waste Reduction Framework Plan was published in 1998 to address the problem. By the end of 2001, 36% of municipal solid waste had been diverted, up from 33 % at the end of 1998. The government announced measures in September 2001 to try to improve the rate. The number of recycling bins in public places will be doubled from 8 000 to 16 000. Bins are also in place in more than 1 000 housing estates and more than 800 schools. A 20-hectare Recovery Park will be built at Tuen Mun Area 38 in 2004. Subject to approval from the Finance Committee of the Legislative Council in 2002, \$100 million will be injected into the Environment and Conservation Fund to be put towards community-based waste prevention and recovery programmes.



The government is trying to take a lead to reduce its wasteloads and the EPD completed a study in 2001 on products the government should consider for green purchasing. The private sector is being targeted through a producer responsibility scheme that will be introduced in 2002, likely starting with mobile phone battery collection.

Construction Waste

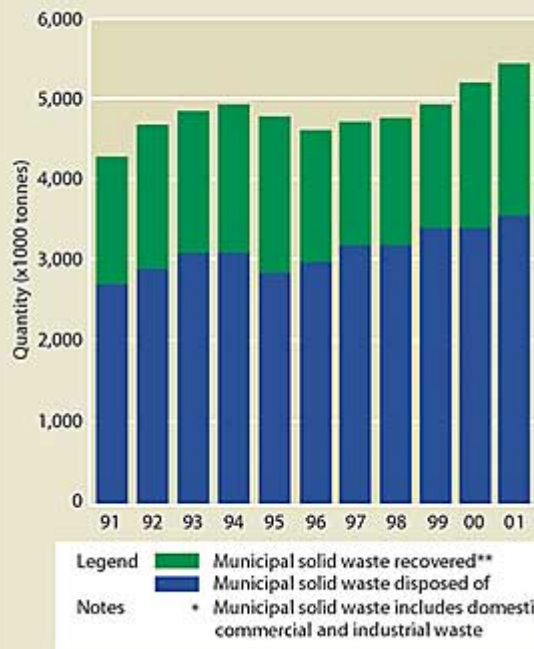
Construction waste disposed of at landfills dropped by about 15 % as compared to 2000, possibly due to the slowdown in the economy. Plans to charge for disposal of non-household waste, in particular construction waste, are still being considered. The government recognises that during an economic downturn it must be careful to look at the impact on the community, although charging is still considered an essential tool for waste reduction. A new sorting facility was set up at Tuen Mun Area 38 for construction waste in 2001 to help reduce wasteloads further.

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

Planning for a Better Environment

Environmentally Sound Waste Management and Facilities

Quantity of municipal solid waste disposed of and recovered 1991 - 2001



Quantity of municipal solid waste disposed of and recovered 1991 - 2001

Waste Facilities

A study was commissioned in 2000 to identify ways of extending existing landfills and to search for new disposal sites. A view-sharing session on the latest landfill development options was held with green groups, academics and other interested parties in March 2001. Strategic environmental assessments of landfill extensions and new sites are still underway. The EPD will also invite expressions of interest for proposals for large-scale waste treatment facilities in 2002.

Waste Facilities in Hong Kong



Waste facilities in Hong Kong

Planning for a Better Environment

Environmentally Sound Waste Management and Facilities

Movement of Waste

Hong Kong and Guangdong environmental officials held talks over the possibility of sending Hong Kong's low-level radioactive waste to a facility in Guangdong. Hong Kong stores about 55 cubic metres of the waste, which consists of such things as the weakened radiation sources from hospitals and educational institutions and waste luminous clock dials, lightning conductors and smoke detectors, in a disused air raid tunnel. A decision to build a storage facility in Hong Kong or to store the low-level radioactive waste in Guangdong will be made in early 2002.



Smoke detector



Lightning conductors



Luminous clock dials

Other Waste Issues

Progress was made in developing toxicity tests for dredged sediment, so that the new sediment management framework takes account of the impact on marine organisms, as well as the chemical composition. The new tests will be carried out for dredging projects with construction works which commence from January 2002.

Public consultation on the control of clinical waste was carried out in November and December 2001. The intention is to require all clinical waste producers, from large hospitals to small private clinics, to segregate clinical waste from other waste types and to arrange for it to be delivered to a licensed disposal facility for disposal. The Legislative Council will be consulted in 2002. A review has also been carried out on available clinical waste treatment technologies. The Legislative Council, the relevant District Councils and the green groups will be consulted in early 2002.

For more detailed information on policies and achievements in 2001, see the EPD's annual report, [Environment Hong Kong](#).

Effective Enforcement and Emergency Response

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

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

The EPD's legislative and enforcement efforts are not intended solely to uphold laws on air, water, noise and waste pollution. We also assess the environmental impacts of development projects, respond to complaints and regulate specific polluting activities through licensing procedures. Furthermore, we are trying to enhance partnerships with industry to encourage greater compliance.

Partnerships

Formal partnerships with industry enable an exchange of information so operators know our expectations and we understand their constraints. Operators also help us by training their staff, encouraging others to comply and finding new solutions to environmental challenges. Partnerships were formed with the construction industry, motor vehicle repair shops and restaurants in 2000, and in 2001 a partnership was formed with property managers. The EPD organised 52 environmental seminars with our partners in 2001 which were attended by about 6 000 participants. We also co-operated in the development of technical solutions for tackling fumes from restaurants and motor vehicle repair shops. Additionally, the EPD organised more than 60 field trips for members of District Councils and the Legislative Council.



Seminar on construction rules & regulations of Hong Kong



Seminar on environmental protection laws

Enforcement of Laws

A Central Prosecution Section was set up in 2001, led by a full-time legal professional, to deal with the increasing number of not-guilty pleas. About 15 per cent of cases are not-guilty pleas, versus 9 per cent about five years ago. The overall number of prosecutions has dropped from 1 824 in 2000 to 1 151 in 2001, and convicted offenders paid \$15.8 million in fines in 2001. This reduction is likely due to several factors. There is better compliance (see Complaints, below) and fewer construction sites; the economic downturn has resulted in less industrial activity, although some operators are cutting costs by reducing their use of pollution control measures such as waste water facilities; and operators are becoming more effective at challenging prosecutions. Staff in the Local Control Offices also carried out 62 349 inspections in 2001.

Complaints

The EPD received 65 281 calls to its hotline, of which about 12 054 were complaints about pollution.. About 8 163 other complaints were also received through other means such as letter, e-mail or via other government departments. The total number of complaints is down from 2000 when the figure was about 27 000 compared to about 20 200 cases in 2001, and this is likely due to several factors. Vigorous enforcement action in recent years is serving as a deterrent to operators; awareness about the need to protect the environment is increasing; and the partnership programmes we have formed with several industries are helping to promote better compliance. In terms of our response rate, we responded to 99 per cent of complaint calls within three working days.

Effective Enforcement and Emergency Response

Other Work

The Local Control Offices participate with Police in catching smoky vehicles and in 2001 we stopped 1 492 vehicles. A total of 269 fixed-penalty tickets for \$1,000 was handed out by the Police. Staff also continued carrying out a Sewer Connection Programme in Tolo Harbour Catchment and to date have connected 41 villages and 19 995 villagers to public sewers. A \$45 million scheme to treat the smelly sediment of the Shing Mun River got underway in 2001.

Response to Emergency Incidents

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

Local Control Offices provide dedicated support for all emergency responses and the Chemical Waste Treatment Centre contractor provides chemical waste collection and disposal services for incidents involving chemicals. In 2001 we were involved in 40 land-based incidents and 17 marine-based incidents and where clean-up work was required, it was carried out satisfactorily.

An Emergency Response Drill team was set up in 1999 to enhance staff performance and readiness in emergency situations. In 2001 it conducted 7 drills. Early in 2001 we organised a two-day international workshop with Canada under our Memorandum of Understanding to share experiences on emergency response with local and overseas experts. We continue to look for opportunities to improve our efficiency in handling emergency situations.

Tung Chung Road Chemical Emergency

An oil tanker overturned off Tung Chung Road on December 7, 2001, spilling eight tonnes of fuel into the nearby hills. An EPD emergency team was sent to the site to assess and minimise the pollution impacts, and direct clean-up work.

The team followed the spillage to a stream, where an oil slick stretched for about one kilometer along the stream course. The oil slick needed to be intercepted to prevent further pollution downstream and in coastal waters.

The team immediately directed the EPD's emergency clean-up contractor to place oil booms at key locations in the stream to stop the fuel oil from spreading. Oil absorbents were applied immediately to the polluted section of the stream. These actions protected the beaches and sea off South Lantau from contamination.



The overturned fuel truck off Tung Chung Road



Oil boom used to prevent oil slick from spreading



Oil absorbent used to clean up stream course

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

Building Partnerships

Recognising the need to win support from all segments of society for environmental initiatives, the EPD has been building partnerships with relevant stakeholders and professionals at both the local and national levels. The experience gained from these outside contacts is invaluable.

Locally

The EPD has formed partnerships with local industries that attract a number of pollution complaints from the public. The purpose is to promote compliance and gain a better understanding of the challenges faced by these industries. In 2000 formal partnerships were established with the construction industry, motor vehicle repair workshops and restaurants, and in 2001 these resulted in some concrete achievements. A three-part programme was mapped out with the construction industry which included providing workers with an illustrated handbook and training, looking into ways of recognising contractors with good environmental practices, and enhancing communication with government works departments and the general public to prevent potential problems at the earliest stage. The Hong Kong Motor Vehicle Repair Association co-operated with the EPD and the Hong Kong Productivity Council (HKPC) to test a machine that controls the release of harmful volatile organic chemicals during paint spraying. The restaurant trade also co-operated with the EPD and HKPC to test a cheaper electrostatic precipitator which traps greasy exhausts and some of the odour from kitchens. A new partnership was formed in 2001 with the property management sector, which resulted in a successful pilot programme to educate residents, contractors and workers about the restrictions on noisy work and the need to control dust, odours and waste and water pollution.

Additionally, the EPD organises seminars and other events with local partners. The EPD and Hong Kong Baptist University jointly organised an international forum on Food Waste Composting in October 2001, which was well-attended by the restaurant trade. The EPD and the Hong Kong General Chamber of Commerce co-organised a seminar in September on corporate environmental reporting, with support from the Hong Kong Productivity Council and the Business Environment Council. The seminar attracted more than 100 organisations and the EPD used the event to disseminate its guidebook on helping private organisations prepare environmental performance reports.

The EPD meets regularly with green groups and community groups to exchange views and work together on projects and campaigns. We collaborate with private sector companies in trial schemes, such as the bus companies with whom we tested Ultra Low Sulphur Diesel fuel. Formal consultation on environmental issues is conducted through the Advisory Council on the Environment and the Environmental Affairs Panel of the Legislative Council. In addition, we participate in District Council, industrial and business association meetings to explain new environmental initiatives and to seek their views. In 2001, the EPD organised more than 60 field trips for District Councillors and Legislative Councillors, including some to pollution blackspots. District Councils also organised waste reduction projects, such as a second-hand exchange and computer refurbishing.

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

Building Partnerships

Another partnership is with the rest of government. Under the Waste Reduction Task Force for the Government, we began working with the Government Supplies Department in 1999 to establish green product specifications for commonly used items such as paper products. 31 product categories were reviewed and the report is available on EPD's home page (http://www.info.gov.hk/epd/english/how_help/green_procure.html). The private sector and outside organisations can refer to the report when buying their supplies. We also worked with the Electrical and Mechanical Services Department to examine the feasibility of using retread tyres. The results of a pilot trial of retread tyres in the heavy vehicle fleet were very promising and their usage will be extended to all government heavy and medium vehicles in the coming years. Other partnership initiatives have led to the introduction of electronic government publications such as the Government Gazette and Government telephone directory, the revision of tenders to encourage the supply of recycled petroleum products, and recovery of spent mercury containing lamps from government departments for recycling.

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

Nationally

The EPD maintains regular contacts with authorities on the Mainland to tackle cross-border environmental issues. We have signed a Memorandum of Understanding (MOU) with the State Environmental Protection Administration on the control of cross-border waste shipments and an MOU with the State Oceanic Administration (SOA). The latter provides for the HKSAR's participation in China's National Marine Environment Monitoring Network. The network is undergoing re-structuring and Hong Kong aims to join when the new structure is in place, some time in 2002. In 2001, in preparation for this, we paid a technical visit to SOA institutes in Dalian and Tianjin and carried out the first phase of a monitoring method validation exercise. SOA officials also visited Hong Kong.

The EPD also continued to work with our counterparts in Guangdong in 2001 on shared environmental issues. Through the Joint Working Group on Sustainable Development and Environmental Protection, which was launched in 1999 to replace the Hong Kong-Guangdong Environmental Protection Liaison Group, a study of air pollution in the Pearl River Delta Region launched will report in 2002. The Joint Working Group is also studying measures to reduce water pollution in Mirs Bay, following a similar study already completed for Deep Bay. Joint celebrations for World Environment Day, June 5, were organised with our regional counterparts in Macau, Zhuhai, Guangdong and Shenzhen.

Internationally

We have signed agreements with Canada, Vienna and Australia to co-operate on environmental matters. Our partnership with Canada dates back to 1992 when we signed an MOU on environmental collaboration. Since then we have organised various workshops and exchanges of information. In 2001, we jointly organised a three-day training workshop in Hong Kong on environmental emergency response; held a joint workshop in Vancouver on environmental conservation and impact assessment; and organised a three-day workshop in Hong Kong on greening government operations that was attended by more than 40 government departments and bureaux. Additionally, Hong Kong officials paid study visits to Canada to look at solid waste management facilities and air quality monitoring and indexing.

Building Partnerships



International workshop on emergency incidents: to keep up with the latest technology development in other countries

An MOU with Vienna was signed in 1999 and in 2001 Hong Kong and Vienna co-organised a seminar on Biological Waste Water Treatment and Sewage Sludge Incineration Technology.

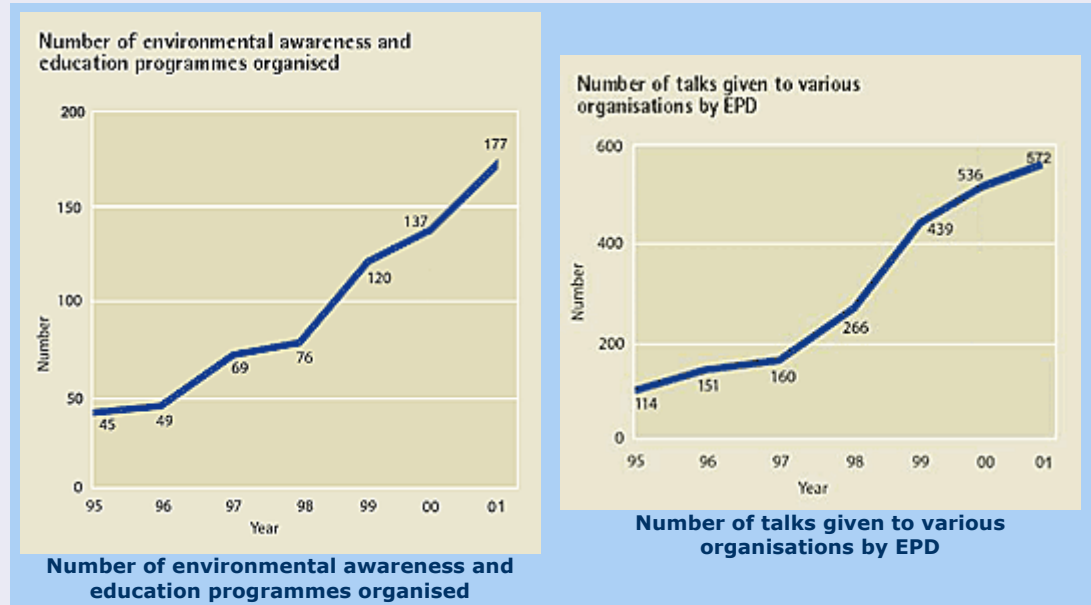
The EPD also hosted the 14th meeting of the Asia-Pacific Economic Co-operation's (APEC) Marine Conservation Working Group, as well as the Fifth Steering Committee Meeting of the APEC Project on Ocean Model and Information System for the APEC Region (OMISAR)

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 aim to gain community support for a range of environmental initiatives. Over the years we have worked with green groups and other community organisations to raise awareness through activities and programmes. These activities started to bear fruit in 2001, with more community groups involved than ever and a large increase in the number of individuals, schools and businesses participating in green activities.

We reach out to the community by giving talks and lectures; organising and running environmental education and awareness projects for schools, community groups, District Councils, corporations, government departments, and other organisations and members of the public; serving as advisers and adjudicators of community environmental programmes; and advising community groups and environmental committees on corporate environmental strategies and environmental awareness programmes.



Campaigns

The EPD serves as secretariat to the government-appointed Environmental Campaign Committee (ECC), which promotes and encourages community involvement in environmental protection. In 2001, the ECC's annual Hong Kong Environmental Protection Festival focused on waste reduction in support of the government's efforts. More than 25 000 people attended the opening day. The ECC also organised celebrations for World Environment Day, which this year focused on a "Green Olympics" in support of Beijing's bid for the 2008 games. Hong Kong partnered with Shenzhen, Macau, Zhuhai, Guangzhou and Zhongshan for the latter event.

The ECC has run the Waste Recycling Campaign in Housing Estates since March 1998. The campaign provides recycling bins to the participant estates for collecting paper, aluminium cans and plastic bottles for recycling, and in 2001 the number of participating public and private housing estates rose to 1,000, up from 700 estates in 2000.

Partnerships were strengthened with community groups, who organised activities to support these events. Nine groups organised waste reduction activities lasting 12 to 24 months with \$4.58 million in funding from the ECC. Another eight community groups organised projects lasting 18 months with \$4.1 million in funding from the ECC. The ECC also provided \$1.1 million to 12 District Councils for their waste reduction activities.

Environmental Awareness and Education

Schools

The Waste Separation and Recycling Scheme in Schools began in 1999 and by the end of 2001 it reached more than 800 schools, double the figure for 2000. The Hong Kong Jockey Club Charities Trust provided money for the expansion and all schools will have waste recycling bins by the end of 2002.

The Schools Environmental Award Scheme cum Student Environmental Protection Ambassador Scheme reached 598 schools and more than 9 700 students in 2001, up from 520 schools and 8 000 students in 2000. The schemes aim to cultivate a sense of responsibility towards the environment among students and in 2001 students were also encouraged to help out in the community. A special badge was created for students who volunteered for more than 25 hours on the programme. Environmental Protection Ambassador Schemes are also organised for more than 1 000 members of the Scouts, Girl Guides, Junior Police Call, the elderly and other community groups. Four Environmental Education Regional Committees were also formed under the scheme. The Regional Committees are responsible for coordinating training for Student Environmental Protection Ambassadors and also propose ideas for promoting environmental education in schools. In 2001 a new scheme, the Environmental Protection Ambassadors Scheme for Property Management, was launched for housing estates representatives and property management personnel. More than 500 ambassadors were recruited from public and private housing estates.

The Hong Kong Green School Award was launched in 2000 to promote environmental management systems in schools. 165 schools participated in this scheme in 2001, against 96 in 2000.

Other

The Hong Kong Eco-Business Awards were held for the third year running. Some 228 companies applied in 2001 under the categories of Green Office, Property Management and Construction Site, up from 74 in 2000.

The Green Leaders Programme initiated in 2001 also provided outreach training programmes to various stakeholders such as women and families, transport operators, the commercial and services sector, District Council members and community group leaders. A total of 195 talks covering 3 795 stakeholders were organized in 2001.

Environmental Resource Centres are multi-media centres that provide the public with easy access to environmental education. Two centres are located in Wanchai and Tsuen Wan. In 2001 we launched a Mobile Environmental Resource Centre, which runs on liquefied petroleum gas and was funded by the Hong Kong Jockey Club Charities Trust. The mobile centre goes to schools, housing estates and commercial centres and is an important part of EPD's outreach programme.

Environmental Awareness and Education

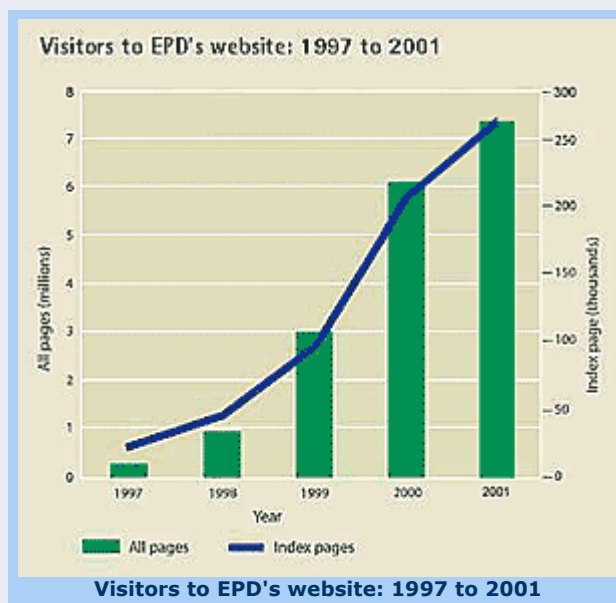
Press Releases and Publications

We place much emphasis on making environmental information widely available to the general public. Press releases are issued to inform the public of the latest information and developments. In addition, we are increasingly making use of the Internet to disseminate information.

- Weekly reports on water quality at bathing beaches are uploaded onto the EPD website at <http://www.info.gov.hk/epd> and issued in the form of press release.
- Hourly Air Pollution Indexes and API forecasts are issued to the media. The information is also available at the EPD website and a telephone hotline at 2827 8541.
- Statistics on environmental prosecutions brought by the EPD are released to the news media on a monthly basis. Lists of on-going and soon-to-start Environmental Impact Assessments are released quarterly. EIA reports and decisions on these reports are placed at the EPD website.
- Monitoring data on the quality of the air, rivers and streams, marine water and beach water are published in separate annual reports.

In addition, we produced 65 publications in 2001 ranging from publicity and training materials to guidelines explaining our new services and initiatives. Most publications and other information we release can be viewed at the EPD's website.

We recognise the important role the media plays in disseminating environmental messages. In 2001, we organised a number of media visits to give journalists a first-hand look at the EPD's waste facilities; air monitoring stations; the vessel used for carrying out marine water monitoring work, Dr Catherine Lam; the progress of the Shing Mun River Improvement Works; as well as waste recovery and recycling process. During the year, we also handled 6 400 press enquiries, issued 182 press releases, organised seven press conferences and briefings, and arranged 138 press interviews.



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

The EPD employs 1170 professional and technical staff, making it the largest employer of environmental experts in the HKSAR. Our staff come from a wide variety of backgrounds, such as science, applied science, town planning and engineering, and many are active members of learned societies in their spheres of expertise. We contribute to the development of the environmental management profession in Hong Kong and elsewhere, by organising conferences, seminars and staff exchanges, providing advice, collaborating with researchers, continuously training staff and writing for outside publications.

The highlights of 2001 included:

- Hosting the 14th meeting of the Asia-Pacific Economic Co-operation's (APEC) Marine Conservation Working Group, which was attended by delegates from 15 economies, as well as the Fifth Steering Committee Meeting of the APEC Project on Ocean Model and Information System for the APEC Region (OMISAR), which was attended by delegates from three economies .
- Mr Mike Stokoe, our Deputy Director, led a delegation of 13 EPD colleagues to the International Solid Waste Association's (ISWA) International Conference on Municipal Solid Waste Treatment and Recycling, held in Guangzhou.
- Co-organising with Environment Canada the "International Workshop on Emergency Incidents - Providing an Effective Response", which attracted more than 300 local and overseas participants .
- Co-organising with Environment Canada a workshop on "Greening Government Operations", which was attended by staff from different government departments and bureaux.
- Co-organising with the Hong Kong Construction Association a conference on Environmental Impact Assessment Ordinance (EIAO), which was attended by over 250 people mainly from the construction industry, some from the consulting industry and government departments to discuss Partnership in the implementation of the EIAO;
- Organising 8 meetings with the various EIAO stakeholders, which were attended by over 190 consultants, contractors, private/public developers and colleagues from various government departments to share experience on the operation of the EIAO;
- Organising a seminar on Improving the EIAO process, which was attended by over 250 colleagues from various government departments to share experience on how to improve the EIAO process;
- Introducing the EIAO to 3 teams of mainland officials during their visits to Hong Kong;
- Co-organising with the Hong Kong General Chamber of Commerce supported by Business Environment Council and Hong Kong Productivity Council on 'Improve Efficiency and Public Image of your Corporation through Environmental Performance Reporting' which attracted 170 participants from a wide range of private business sectors including construction, engineering, trading and manufacturing.
- Co-organising with Vienna a seminar on "Biological Waste Water Treatment and Sewage Sludge Incineration Technology".
- Co-organising another 8 events including technical meetings and visits with our overseas counterparts and local and international environmental associations.
- Having our Assistant Director (Environmental Assessment and Noise), Elvis Au, elected President of the International Association for Impact Assessment.

Professional Development and Research

- Producing 59 papers, which were published in professional journals or presented at conferences or workshops. The papers were written by EPD staff on various environmental issues
- Continuing to serve on the fund-vetting committees of the Innovation and Technology Fund and the Environment and Conservation Fund, which help finance education and research projects in the environmental field
- Providing training to our professional staff for an average 6.5 days each in 2001. About 29% of the training sessions focused on environmental subjects and the rest covered management, safety, languages and computers. Our technical staff each recorded an average of 5.9 days of training in 2001, with about 18% concerning environmental subjects



Asia-Pacific Economic Cooperation's Marine Conservation Working Group 14th meeting



The Fifth Steering Committee meeting of Ocean Model and Information System for APEC Region

Environmental Graduate Training Scheme

More than 240 professional engineers in various fields now work in the EPD. But we are conscious of the need to train future generations of professional environmental engineers. In August 1997 we initiated a three-year Environmental Graduate Training Scheme. Fifteen engineering graduates have entered training under the department since then and six of them have completed the training.

We will continue to invest in staff development in the year 2002.

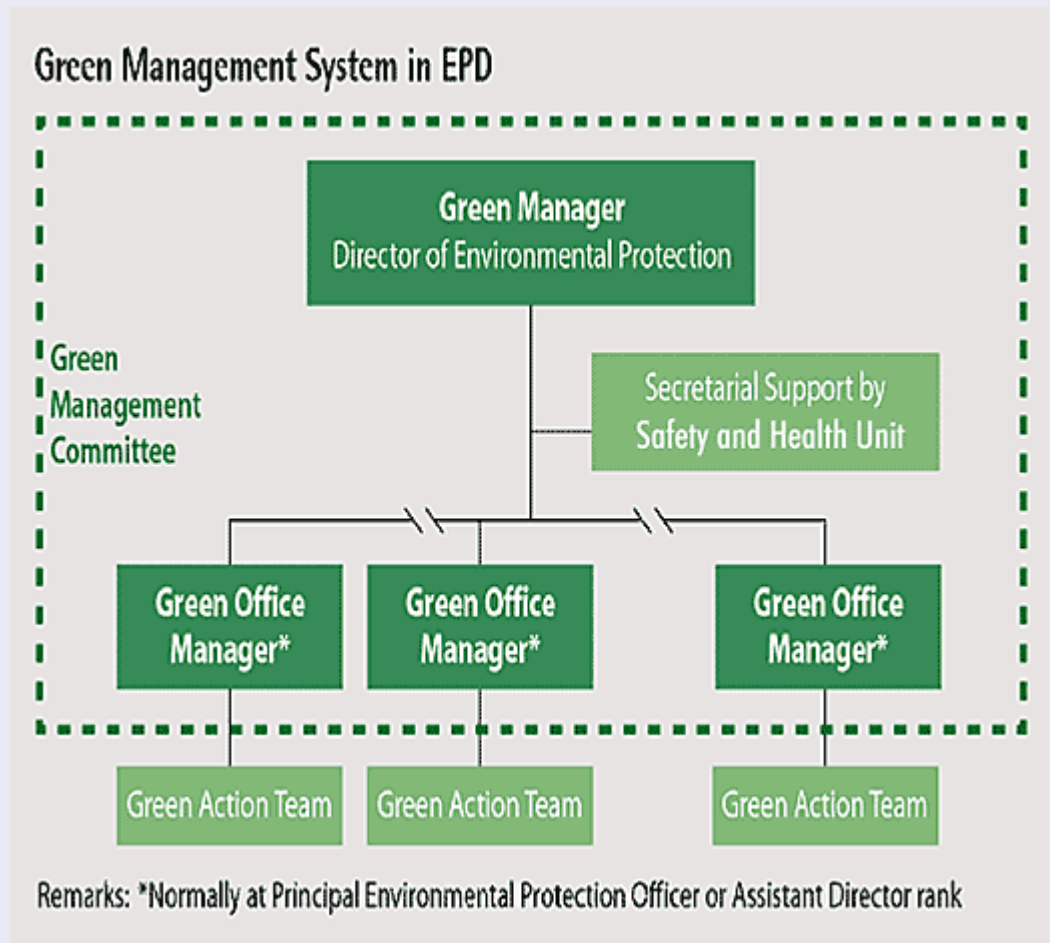
Corporate Environmental Management

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

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

Environmental Management System

Our environmental management system (EMS) aims to fulfill internally the goals described in our Environmental Policy on compliance, pollution prevention, minimisation of consumption and other issues. The Director of the EPD is our green manager and chairs the department's Green Management Committee (GMC), attended by office managers from our 13 offices. The GMC has been supported by the Safety & Health Unit (SHU) since August 2001, which replaced the Management Support Unit. The SHU is responsible for developing, implementing and reviewing our environmental management system and practices department-wide. Green practices are carried out by Green Action Teams, which are in place in each of our 13 offices and comprise staff of various ranks. The Green Action Teams report to their respective office managers, who may bring matters up for discussion at the GMC as required.



Each office must complete regular self-audits of their green management practices and in 2001 some 45 self-audits were completed by the Green Action Teams, who used updated checksheets prepared by the SHU. The SHU, in turn, audited 10 offices in 2001. These audits revealed that in general the staff were very aware of green office housekeeping. They implemented such things as self-initiated paper and electricity saving practices, and they set their own performance targets. They also set up attractive green corners to post information on green measures and the office's green housekeeping achievements.

Corporate Environmental Management

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



Recycling boxes for different types of recyclable items are available in our offices



Green information is posted on our offices' Green Corner notice boards

A gap analysis of our EMS conducted by the SHU revealed room for improvement. The gap analysis used ISO 14001 standards as the benchmarks and found that our EMS should shift the focus from green housekeeping to management of the overall environmental performance of our internal operations. Therefore, to improve our EMS and make it more effective, we are establishing a system to identify, assess and record the environmental impacts of our internal operations and daily activities, and to manage these impacts.

ISO 14001 Certification

We obtained certification of our Waste Facilities Business Unit (WFBU) in 2000. We see certification as an opportunity to continue improving our environmental performance and to set a good example for other government departments and the private sector.

The WFBU also requires contractors of new waste management facilities to obtain ISO 14001 EMS certification as part of the contractual arrangements.

Minimising the Impacts of Our Operations

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

Waste Facilities

Our major impact on the environment comes from the operation of waste facilities. The EPD oversees 29 waste facilities and we require our contractors to operate them to a high environmental standard, through both contractual requirements and statutory controls. The contractors must comply with all applicable environmental ordinances, regulations and emission conditions. Air, noise and wastewater emissions from these facilities must be monitored and this is supervised closely by EPD staff on site. Since 1989, we have included a provision in waste facilities contracts to deduct payment for non-compliance with environmental controls.

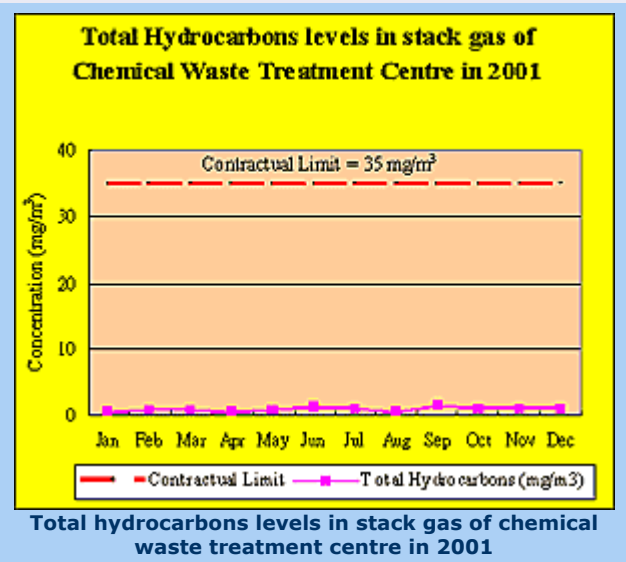
In 2000, our Waste Facilities Business Unit received ISO 14001 certification for its environmental management system and all contractors of new waste management facilities were required to obtain ISO 14001 certification for their environmental management systems as part of their contractual arrangements. The restored Northwest New Territories Landfills and the restored Gin Drinkers Bay Landfill obtained the certification in 2001. Two other new facilities, the Northwest New Territories Refuse Transfer Station and the Sha Ling Composting Plant, were expected to be certified in 2002. In addition, we are encouraging contractors of existing waste facilities to develop environmental management systems to further improve their environmental performance. Contractors at three landfill restoration sites have implemented environmental management systems and they were expected to obtain ISO 14001 certification in 2002.

Compliance Rate

In 2001, no environmental prosecution was taken against any of our waste management contractors. They also achieved 99.997% compliance with contractual environmental requirements, similar to 2000 and 1999. Each non-compliance was thoroughly investigated and remedial action instigated.

Complaints

In 2001 there was no complaint received against CWTC and 21 complaints against other waste facilities. Complaints included odour, noise, dust and fly nuisance. All complaints were dealt with promptly.



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 landfill gas does not escape. In 2001, an average 750,000 m³ of landfill gas was collected daily, 45% of which is used to meet nearly all on-site energy consumption. To date, electricity generators with a total capacity of 7.4 MW have been installed at landfills.

A construction and demolition (C&D) waste recycling plant has been operating on the Southeast New Territories (SENT) landfill since 1995, to sort and recycle any C&D waste delivered for beneficial reuse and to reduce the amount of waste taking up landfill space. At present the plant is recycling about 36,200 tonnes of C&D waste monthly, representing 11% of the total waste intake at the landfill.

Minimising the Impacts of Our Operations

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

Refuse Transfer Stations

Refuse Transfer Stations (RTSs) help to reduce the environmental impact of transporting waste to landfills. Small refuse collection vehicles (RCVs) deliver waste to the RTSs where it is transferred into bulk waste containers that are taken to landfills either by land or by sea. Each container can accommodate the equivalent of three to five RCV-loads. In 2001 some 1,100 RCV trips to landfills were eliminated each day. Bulk waste transfer, by sea in particular, has significantly reduced the traffic, noise and air emission problems that might otherwise be caused by directly hauling waste to landfills.

There are eight RTSs, including one commissioned in the North West New Territories in 2001. Most of the RTSs are 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 land space.

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 below emission limits. 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.

Environmentally friendly practices are encouraged by allowing the contractor to keep revenue generated from the sale of materials recovered from waste. The oil recovered from the oil/water waste of ocean-going vessels is sent to a local cement plant for use as a fuel, instead of being incinerated. The copper oxide recovered from waste etchant used by the electronics industry is sent to a smelter in the United States to recover the copper. In 2001, 10,240 tonnes of oil and 360 tonnes of copper oxide were recovered by the Centre.

Laboratories

Our laboratories (air, chemical, water sciences and microbiological) are operated in a manner that minimises the impact on the environment and in compliance with the legal requirements and statutory licence conditions. In 2001, routine monitoring of the effluent discharge from our laboratories indicated full compliance. Annual monitoring of the emission of acid fumes from fume cupboards also indicated full compliance.

Field Work

To minimise the environmental impacts during our 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 handling of hazardous materials.

Emergency Response at EPD Facilities

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

Minimising the Impacts of Our Operations

The EPD, waste facilities contractors and other concerned government departments, e.g. Hong Kong Police Force, Fire Services Department, Civil Engineering Department, and Food and Environmental Hygiene Department, had jointly arranged an emergency drill in March 2001 to test for the emergency responses from all waste facilities. This drill covered all emergency scenarios, including landfill slope failure, landfill gas leakage, landfill and RTS blockade, vessel collisions and chemical waste spillage, etc.

For the CWTC, four emergency drills were carried out in 2001. The first drill assumed MARPOL waste spillage (marine based incident), the second drill assumed MARPOL waste fire (marine based drill), the third drill assumed fire hazard (Fire Services Department was involved) and the fourth drill assumed an incident in a confined space. The drills were carried out by the contractor and witnessed by EPD staff. The EPD required the CWTC contractor to carry out at least one drill on marine incidents every year.

For our laboratories, no incidents were reported in 2001.

Measures adopted to prevent pollution from the laboratories:

Legal measures:

All necessary licences and permits under the law (e.g. Water Pollution Control Ordinance (WPCO), Waste Disposal Ordinance (WDO), etc.) are obtained and the stipulated conditions are strictly adhered to

Air pollution:

Emissions from fume cupboards and safety cabinets, including those for asbestos, are scrubbed or filtered as required to remove pollutants before release into the atmosphere

Water pollution:

Our laboratory sinks are fitted with buffer tanks to prevent the accidental discharge of unsuitable substances into the sewers. Buffer tanks were installed in the remaining two sinks in 2001. A sink used for handling asbestos is also fitted with a filter to remove the asbestos from the waste water

Monitoring:

Emissions from fume cupboards and discharges from sinks are monitored regularly to ensure compliance with the required standards

Hazardous waste:

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

Emergencies:

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

Audits:

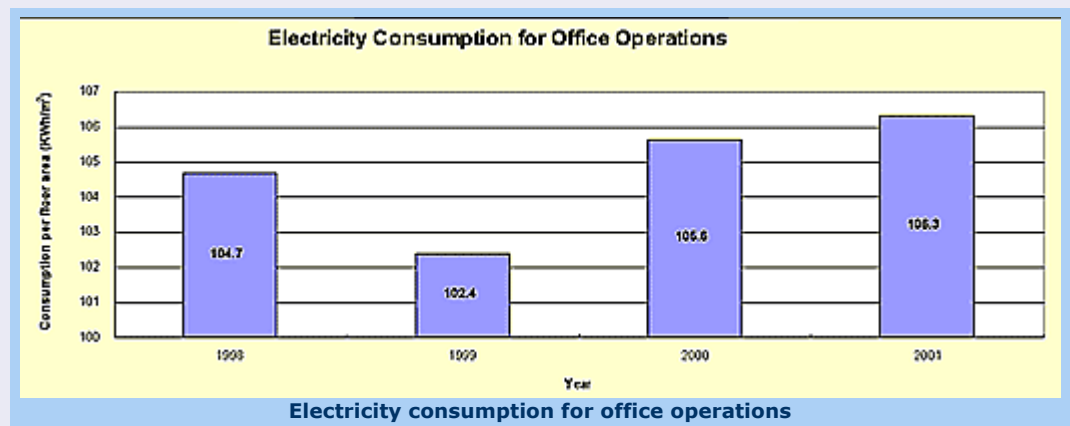
Environmental audits of the laboratories are carried out regularly by laboratory staff and supplemented with external audits by the EPD's Safety and Health Unit.

Greener Office

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

Green housekeeping is a high priority for the EPD because it enables us to conserve resources and set a good example to other government departments and the community at large. We have adopted a number of environment-friendly measures in our offices and we expect all of our colleagues to practise them, regardless of rank.

Our first departmental green housekeeping guideline was issued in 1987 on the use of electricity. As part of our continuing effort to reduce electricity consumption, we invited the Energy Efficiency Office of the Electrical and Mechanical Services Department (EMSD) to conduct an energy audit at Southorn Centre in February 2001. It recommended that we should replace the remaining obsolete T12 type fluorescent tubes which were being used in the service rooms by the more energy efficient T8 type since it would save 10% of the power consumption. The replacement work started in 2001 and was expected to result in energy savings. In addition, occupancy sensors with dimmable controls are to be installed on the 28/F at the Southorn Centre in early 2002. Another recommendation was to replace inlet guide vanes with variable speed drives for the air handling units on each floor at Southorn Centre, and we are exploring with EMSD whether the installation work could start in 2002. We also re-wired the lighting circuits in Southorn Centre to increase the number of lighting zones where lights can be switched off locally. Overall, a slight increase in electricity consumption was recorded in 2001, which was mainly due to an increase in our workload and longer operating hours of the air-conditioning equipment for our new servers.

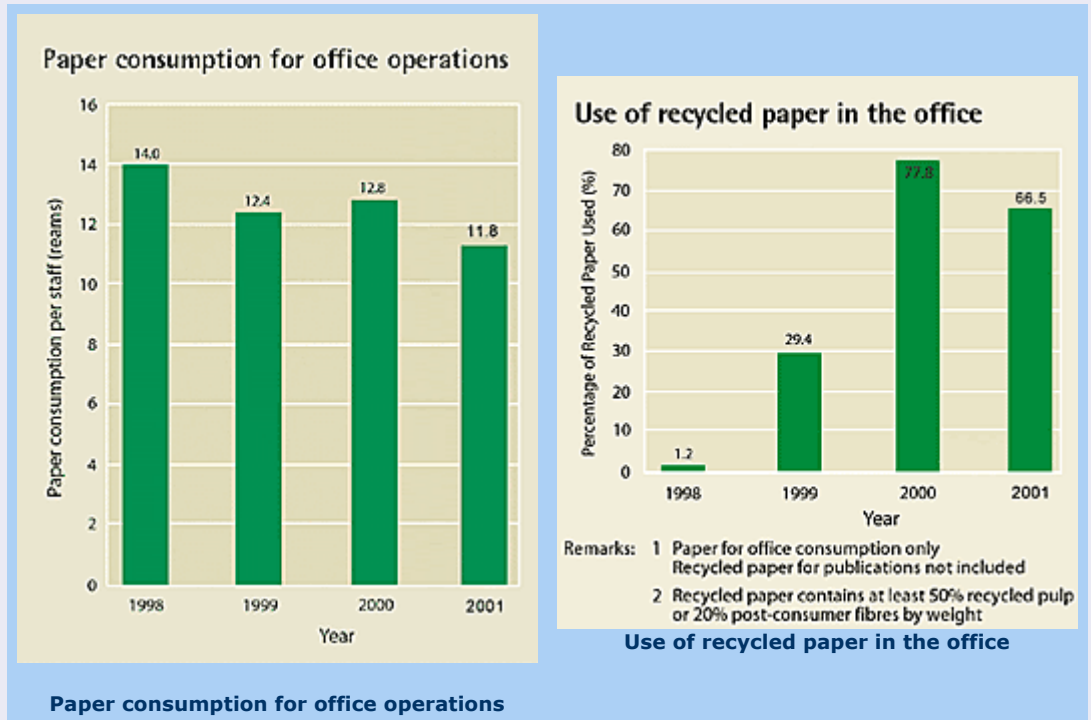


The EPD was the first government department to specify the use of recycled paper for all our publications and we constantly strive to contain and reduce paper consumption. E-mail and other e-office practices are used widely in the department. In July 2001 we started issuing administration circulars and general notices by e-mails to all staff, under the title Administration Daily Bulletin, to replace hard-copy circulation. In August we placed the department's telephone directory on-line. And in September we introduced an electronic fax system for sending and receiving fax transmissions by e-mail. These measures resulted in an estimated saving of about 52 reams of photocopying paper. Further reduction of paper consumption was achieved through other electronic initiatives, such as the introduction by the Civil Service Bureau and Information Technology and Broadcasting Bureau of a pilot Electronic Leave Application and Processing System (ELAPS), and the processing of training applications electronically. There will be further reduction of paper consumption after the roll-out of more electronic workflow applications on a number of subjects.

An analysis of our paper consumption patterns was completed in 2001. Based on the findings, the target for paper consumption for 2001 was set at that of the 1999 level. Major paper consumers were identified and they have been asked to explore further means of reducing their paper consumption. Overall, paper consumption decreased by 16.6 % in 2001, which is below the 1999 level.

Greener Office

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



Office Environment

Indoor air quality surveys were conducted at the 10 main EPD offices by the Electrical & Mechanical Services Department (EMSD) between 1998 and 2001. The air quality in our offices generally complied with our indoor air quality guideline levels, but the levels of carbon dioxide and/or total viable count of microbial/biological contaminants exceeded the set levels in some office areas. Improvements have been undertaken in 2001 with the aim of gaining full compliance. We will arrange with the EMSD to conduct further indoor air quality surveys at our offices in 2002. To provide a better working environment for our staff, a no-smoking policy has been in place in all our offices since 1995. The ban has been extended to all departmental vehicles, in line with general government policy.

Greener Transport

Motor vehicle transport is by its nature polluting. To reduce the impacts, we have introduced measures to control emissions and lower fuel consumption. All of our vehicles - mainly medium vans, saloons, and motorcycles - run on petrol or liquefied petroleum gas, rather than the more polluting diesel fuel. We have also initiated a non-idling policy for our vehicles in an effort to reduce air pollution.

All EPD offices combine trips and therefore maximise the use of departmental vehicles, and we have joined the car pooling system for government vehicles at Revenue Tower in Wanchai North. In 2001, the EPD's Administration Group implemented an internal Vehicle Booking Information System to enable a more efficient arrangement of car pools among all our Groups and offices. The system logs the mileage and number of passengers for each car trip, and this data will be used as a basis for devising a green transport action plan in 2002. As a result of these measures, we have not had to purchase any new vehicles since 1996 even though our operations have increased.

Greener Office

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

In 1999 we began discussions with the Government Land Transport Agency (GLTA) to include environmental performance considerations in awarding contracts for hired vehicles, such as whether they emit black smoke, use petrol instead of diesel, or are installed with particulate traps and/or catalytic converters. As a result, a preferential clause was included in tender specifications for new contracts starting in 2000, indicating clearly to vehicle contractors our policy of requiring good environmental performance. To this end, one of the contractors, Apollo has started to replace three diesel-powered vans with petrol-fueled ones since the end 2001. In addition, all diesel-type hired vans of contractors have been equipped with catalytic converters to reduce air pollution. All contractor drivers are required to switch off their engines when the vehicles are stationary.

Suppliers and Service Providers

For out-sourced services, we require our service providers to adopt green measures as much as possible. For example, where hard copies 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.

The new mobile Environmental Resource Centre was delivered in 2001 and its contractor was required to install environmentally friendly features such as solar fans and energy-saving bulbs. The vehicle is also powered by the less polluting liquefied petroleum gas.

To exert further influence on our contractors and suppliers, we began requiring them in 2000 to provide information on their environmental performance, such as whether they have obtained ISO 14001 certification, whether they avoid the use of hazardous materials in the manufacturing process and whether they will take back spent products such as batteries.

Staff Awareness, Training and Participation

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

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

The EPD introduced formal training in environmental management for our staff in 1997. New staff are briefed on environmental management, including our Environmental Policy, during their induction course. New and existing staff also attend seminars or workshops to improve their knowledge of environmental management. In 2001, 28 staff attended a one-day seminar on best environmental practices in the workplace, which was organised by the Hong Kong Productivity Council; six staff attended environmental management courses organised by external organisations; and 58 staff attended two in-house courses on environmental management systems organised by the Waste Facilities Division.

We continually try to raise staff awareness of environmental protection through departmental circulars, postings on Green Corner notice boards, direct e-mails, a green management corner on the departmental computer network, the staff newsletter EPD Life, our annual report Environment Hong Kong, this Environmental Performance Report and our Internet homepage.

A Green Action Team is in place in every office to ensure staff comply with good green office management practices. The team makes surprise inspections and sends friendly reminders to colleagues who forget to follow green office management practices.

Our colleagues are encouraged to contribute green ideas through a staff suggestion scheme. Winning proposals receive cash prizes and/or departmental commendations, resulting in some innovative ideas being adopted. In 2001, green ideas from our colleagues were received although there were no award-winning suggestions.

Our staff committee organises outings for staff and their families to participate in green activities outside the office. In 2001, a visit was organised for 32 staff and their families to the Island West Transfer Station, to promote environmental awareness among family members and to let them understand more about the EPD's operations. The committee also organised a visit to Mai Po Nature Reserve for our staff and their families in 2001. In addition, staff were encouraged to participate in an externally-organised campaign, the Conservancy Association's "Green Challenge, No Plastic Bags, Please" campaign.



EPD Staff and their families visit Mai Po Nature Reserve



Our staff and families visit one of our waste facilities

The EPD also promoted waste recycling among other occupants of our office buildings, through the building management committees. As a result, recycling collection boxes for plastic bottles and aluminum cans were placed on many floors of Southorn Centre in December 2001.

Progress on Year 2001 Targets

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2001	Progress in 2001
Contribution to Strategic Decision-making	<ul style="list-style-type: none"> To manage the environmental assessment reports (SEA) for Hong Kong 2030: Planning, Vision and Strategy in order to ensure environmental considerations are fully integrated in the long-term strategic planning of Hong Kong. 	<ul style="list-style-type: none"> Commenced SEA Study and provided environmental input. The first Environmental Study Management Group meeting was held in December 2001.
	<ul style="list-style-type: none"> To continue promoting the application of SEAs to major government policies and proposals which might have major environmental implications. 	<ul style="list-style-type: none"> Processed seven SEAs in 2001, some on-going, which facilitated project proponents in integrating environmental considerations at the earliest possible stage. Four SEA reports were ready to be uploaded onto EPD's Website for easy reference.
	<ul style="list-style-type: none"> To provide environmental information to the future Sustainable Development Unit to update and manage the environmental database of the Sustainable Development System developed under SUSDEV21. 	<ul style="list-style-type: none"> Provided information for updating baseline values of relevant environmental indicators.
	<ul style="list-style-type: none"> To issue guidance material and conduct seminars for the private sector to encourage them to go further in environmental performance reporting. 	<ul style="list-style-type: none"> Completed in September 2001.
Prevention and Mitigation through Environmental Impact Assessment	<ul style="list-style-type: none"> To allow public access to environmental monitoring and audit information of major development projects through the Internet by 2001. 	<ul style="list-style-type: none"> Funding of \$4.40M for the project implementation was approved in August 2001. Tender was awarded in September 2001.

Progress on Year 2001 Targets

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2001	Progress in 2001
Better Air Quality	<ul style="list-style-type: none"> To require all newly registered taxis to use LPG fuel from 2001. 	<ul style="list-style-type: none"> Introduced requirement from 1 August 2001.
	<ul style="list-style-type: none"> To draw up a specification on catalytic converters suitable for pre-Euro standard diesel vehicles over 4 tonnes and to implement a large-scale retrofit programme. 	<ul style="list-style-type: none"> Drafted the specification for non-long idle duty cycle vehicles.
	<ul style="list-style-type: none"> To start introducing the Euro III emission standards for newly registered vehicles in 2001. 	<ul style="list-style-type: none"> Commenced programme for introducing the new emission standards in 2001.
	<ul style="list-style-type: none"> To complete the trial of LPG and electric light buses in early 2001. 	<ul style="list-style-type: none"> Completed.
	<ul style="list-style-type: none"> To work out a proposal to phase out diesel light buses in favour of clean alternatives. 	<ul style="list-style-type: none"> Started consulting the light bus trade and LegCo on a proposal to introduce LPG or electric light buses.
	<ul style="list-style-type: none"> To put forward a proposal to make the installation of a particulate removal device a requirement for the licence renewal of pre-Euro standard diesel vehicles up to 4 tonnes. 	<ul style="list-style-type: none"> Consulted the transport trades and are preparing a legislative amendment.
	<ul style="list-style-type: none"> To introduce a regulation for controlling perchloroethylene emissions from dry cleaning facilities. 	<ul style="list-style-type: none"> Introduced in November 2001. A public register and all adjunct items needed for enforcement were put in place.
	<ul style="list-style-type: none"> To open the Indoor Air Quality (IAQ) Information Centre in early 2001 and launch the voluntary certification programme for IAQ. 	<ul style="list-style-type: none"> Opened the IAQ Information Centre in January 2001. The certification scheme is being finalised and the aim is to implement it in 2002.
<ul style="list-style-type: none"> To examine possible improvement measures on regional air pollution with the Guangdong authorities. 	<ul style="list-style-type: none"> In progress. The target would be to reach a consensus by end of April 2002 on a plan to implement long-term measures to improve the air quality of the region. 	
Quieter Environment	<ul style="list-style-type: none"> To complete a review on the control on daytime construction noise. 	<ul style="list-style-type: none"> Completed.
	<ul style="list-style-type: none"> To review 200 planning schemes and strategic proposals to minimise noise problems for around 57 000 people in 2001. 	<ul style="list-style-type: none"> Reviewed 227 planning schemes and strategic proposals to minimise noise problems for about 67 000 people.
	<ul style="list-style-type: none"> To expand the Noise Control Designated Areas in the territory which are subject to tighter construction noise control in 2001. 	<ul style="list-style-type: none"> Supported the establishment of new Designated Areas and implemented the relevant control in December 2001.
	<ul style="list-style-type: none"> To tighten the noise standards for motor vehicles in 2001. 	<ul style="list-style-type: none"> Formulated a proposal to tighten vehicle noise standards.
	<ul style="list-style-type: none"> To commence a retrofitting programme to address noise impacts of existing roads by implementing engineering solutions with barriers and enclosures, and resurfacing with low noise materials from 2002. 	<ul style="list-style-type: none"> Completed consultations with District Councils in June 2001. Completed Preliminary Project Feasibility Studies for Phases 1 and 2 of the retrofitting programme.

Progress on Year 2001 Targets

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2001	Progress in 2001
Better Water Quality	<ul style="list-style-type: none"> To commence preparation work for the HKSAR's participation in China's National Marine Environment Monitoring Network. 	<ul style="list-style-type: none"> Paid a technical visit to the State Oceanic Administration (SOA) institutes in Dalian and Tianjin in May-June. The first phase of the monitoring method validation exercise was carried out in August-September. A return visit by SOA's South China Sea Branch to Hong Kong was made in November 2001.
	<ul style="list-style-type: none"> To initiate studies and trials recommended by the International Review Panel on the Harbour Area Treatment Scheme. 	<ul style="list-style-type: none"> Initiated Environmental and Engineering Feasibility Studies on schedule in November 2001.
	<ul style="list-style-type: none"> To finalise the amendment proposals to the Technical Memorandum on Effluent Standards. 	<ul style="list-style-type: none"> Finalised.
	<ul style="list-style-type: none"> To finalise the legislative amendment proposals to the Water Pollution Control Ordinance. 	<ul style="list-style-type: none"> Completed public consultation in August 2001. In light of the public comments received, amendment proposals are being revised for further consideration by the policy bureau.
Environmentally-Sound Waste Management and Facilities	<ul style="list-style-type: none"> To review the Waste Disposal Ordinance with special emphasis on tackling illegal disposal and enhancing waste reduction initiatives. 	<ul style="list-style-type: none"> Completed.
	<ul style="list-style-type: none"> To examine the feasibility of developing materials recovery/recycling facilities at the identified potential sites in 2001. 	<ul style="list-style-type: none"> On-going, focusing on recovery/recycling facilities for problematic wastes such as vehicle tyres and electrical and electronic appliances.
	<ul style="list-style-type: none"> To commission the Northwest New Territories Refuse Transfer Station in 2001. 	<ul style="list-style-type: none"> Commissioned.
	<ul style="list-style-type: none"> To complete strategic environmental assessments on expanding existing landfills and on potential sites for new waste disposal facilities in 2001. 	<ul style="list-style-type: none"> On-going. Scope of strategic environmental assessments expanded to cover additional sites.
	<ul style="list-style-type: none"> To complete a study on the development of bulk waste reduction facilities in 2001. 	<ul style="list-style-type: none"> Substantially completed work on the engineering feasibility and environmental impact assessment.
	<ul style="list-style-type: none"> To implement on-going and new initiatives under the Waste Reduction Framework Plan. 	<ul style="list-style-type: none"> On-going.
	<ul style="list-style-type: none"> To firm up the implementation arrangements of the landfill charging scheme and to develop the associated legislative framework. 	<ul style="list-style-type: none"> On-going.

Progress on Year 2001 Targets

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2001	Progress in 2001
Effective Enforcement and Emergency Response	<ul style="list-style-type: none"> To set up a Central Prosecution Section in 2001. 	<ul style="list-style-type: none"> The Central Prosecution Section was set up in 2001
	<ul style="list-style-type: none"> To set up an Emergency Response Information Database centrally in Local Control Division (LCD) in 2001. 	<ul style="list-style-type: none"> Setting up of the Information Database completed by the end of 2001. Data uploading and testing will commence in early 2002 and is scheduled for completion in March 2002.
	<ul style="list-style-type: none"> To conduct a seminar by early 2001 to share our experience with local and overseas experts. 	<ul style="list-style-type: none"> Completed. The experience sharing workshops were held in 2001. LCD also conducted a Territory-wide Emergency Response Drill in 2001.
Building Partnerships	<ul style="list-style-type: none"> To organise an International Workshop on Handling of Emergency Incidents with the Canadian Government in 2001. 	<ul style="list-style-type: none"> Completed.
	<ul style="list-style-type: none"> To promote environmental compliance in the construction industry by enhancing the communication with the management of major projects. 	<ul style="list-style-type: none"> Completed. (Apart from organising construction seminars, we have also contacted the key persons of major projects, such as Ma On Shan Rail, Cyberport Development and East Rail.)
Environmental Awareness and Education	<ul style="list-style-type: none"> To implement Phase V of the Waste Recycling Campaign in Housing Estates for 2001-2002 to allow 300 additional housing estates to participate. 	<ul style="list-style-type: none"> 300 additional housing estates participated in Phase V of the Waste Recycling Campaign in Housing Estates in 2001-2002.
	<ul style="list-style-type: none"> To invite 580 schools and over 8 800 students to join the Student Environmental Protection Ambassador Scheme in 2001-02. 	<ul style="list-style-type: none"> 598 schools and 9 783 students joined the scheme in 2001-02.
	<ul style="list-style-type: none"> To conduct 90 training workshops to train 1 800 stakeholders to be green leaders in 2001-02. 	<ul style="list-style-type: none"> 195 training workshops were conducted to train 3 795 stakeholders to be green leaders in 2001-02.
	<ul style="list-style-type: none"> To conduct four environmental education training workshops for 150 primary teachers in 2001-2002. 	<ul style="list-style-type: none"> Seven environmental education workshops were conducted for 156 primary school teachers
	<ul style="list-style-type: none"> To extend the Waste Separation and Recycling Scheme in Schools to allow 400 additional schools to participate. 	<ul style="list-style-type: none"> 400 additional schools participated in the Waste Separation and Recycling Scheme in Schools in 2001-02.
	<ul style="list-style-type: none"> To open a new Mobile Environmental Resource Centre and arrange 50 visits for the community in 2001-02. 	<ul style="list-style-type: none"> The MERC came into service in September 2001. By 16.1.2002, 44 visits had been arranged. Another 20 visits were scheduled between 17.1.2002 and 31.3.2002, the end of the financial year.

Progress on Year 2001 Targets

Initiative to Strengthen the Environmental Performance of Our Internal Operations

Reporting areas	Targets for 2001	Progress in 2001
Corporate Environmental Management	<ul style="list-style-type: none"> To ensure each Green Action Team at the 13 EPD offices carries out at least one self-audit on their green management practices in 2001. 	<ul style="list-style-type: none"> Completed
	<ul style="list-style-type: none"> To complete departmental green management audits on at least ten EPD offices in 2001. 	<ul style="list-style-type: none"> Completed
	<ul style="list-style-type: none"> To carry out a gap analysis of our environmental management system and ISO 14001 in 2001 	<ul style="list-style-type: none"> Completed
Minimising the Impacts of Our Operations	<ul style="list-style-type: none"> To continue the close supervision of our waste facilities contractors aiming for 100 % compliance with both the legal and contractual environmental requirements. 	<ul style="list-style-type: none"> Achieved 100% compliance with legal environmental requirements and 99.997% compliance with contractual environmental requirements.
	<ul style="list-style-type: none"> To achieve 100% compliance with the legal and departmental environmental requirements in our laboratories and field operations. 	<ul style="list-style-type: none"> Achieved 100% compliance.
Greener Office	<ul style="list-style-type: none"> To set reduction targets for paper and electricity consumption in 2001. 	<ul style="list-style-type: none"> Paper consumption target was set at the 1999 level. Paper consumption decreased by 16.6% and a slight increase in electricity consumption was recorded.
	<ul style="list-style-type: none"> To implement energy saving measures in our offices at Southorn Centre. 	<ul style="list-style-type: none"> Started replacing the remaining obsolete T12 type fluorescent tubes by the more energy efficient T8 type fluorescent tubes. Increased lighting zones for switching off lights locally.
	<ul style="list-style-type: none"> To continue to devise internal Green Transport Plans for our operations to promote greater use of efficient and environmentally friendly means of transport by 2001. 	<ul style="list-style-type: none"> Ongoing.
	<ul style="list-style-type: none"> To continue with the requirement to supply environmental information on products and services out-sourced from contractors and suppliers in 2001. 	<ul style="list-style-type: none"> Ongoing.
	<ul style="list-style-type: none"> To reduce the printing of departmental publications(e.g. EHK and EPR) by making greater use of CD-ROMs and dissemination through the Internet. 	<ul style="list-style-type: none"> The printing of departmental publications decreased by 27.6 %.
	<ul style="list-style-type: none"> To reduce the use of paper by carrying out more office transactions through the departmental computer network, e.g. information sharing, archiving of documents, purchase requisition, etc. 	<ul style="list-style-type: none"> Introduced various e-office practices to save paper.
Staff Awareness, Training and Participation	<ul style="list-style-type: none"> To organise more training opportunities for our staff. 	<ul style="list-style-type: none"> 92 staff attended courses or seminars related to environmental management.

Targets for 2002

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2002
Contribution to Strategic Decision-making	<ul style="list-style-type: none"> ■ To facilitate public access to strategic environmental assessment reports (SEA) through the Internet by 2002 ■ To continue promoting the application of SEAs to major government policies and proposals which might have major environmental implications. Examples on SEAs will be distributed to project proponents for promoting strategic environmental assessments. ■ To liaise closely with the Sustainable Development Unit on the need to further update the various baseline data for the relevant environmental indicators
Prevention and Mitigation through Environmental Impact Assessment	<ul style="list-style-type: none"> ■ To launch a system to allow public access to environmental monitoring and audit information of major development projects through the Internet in February 2002.
Better Air Quality	<ul style="list-style-type: none"> ■ To commence the large-scale retrofit programme for pre-Euro standard diesel vehicles over 4 tonnes. ■ To finalise the proposal to introduce LPG or electric light buses and phase out diesel light buses, in light of feedback from consultations with the light bus trade and LegCo. ■ To put forward for LegCo's approval a proposal making the installation of a particulate removal device a requirement for the licence renewal of pre-Euro standard diesel vehicles up to 4 tonnes. ■ To continue enforcing the perchloroethylene regulation. ■ To launch the voluntary Indoor Air Quality certification scheme. ■ To work with Guangdong on plans and measures to improve air quality in the Pearl River Delta Region.
Quieter Environment	<ul style="list-style-type: none"> ■ To review 230 planning schemes and strategic proposals to minimise noise problems for about 68 000 people. ■ To propose amendment of the vehicle noise control regulation. ■ To commence detail design work for retrofitting barriers for Phases 1 and 2 of the retrofitting programme and to commence resurfacing work at identified road sections. ■ To launch a programme to promote better community understanding of environmental noise. ■ To commence a study into the effects of environmental noise on people and their health.
Better Water Quality	<ul style="list-style-type: none"> ■ To carry out the second phase of the monitoring method validation exercise in connection with the National Marine Environmental Monitoring Network. ■ To complete fieldwork for the studies recommended by the International Review Panel on the Harbour Area Treatment Scheme, and consult the scientific community on appropriate assessment criteria. ■ To table the draft new effluent standards in the Legislative Council and subsequently issue the new Technical Memorandum on Effluent Standards. ■ To finalise the scope of amendments to the Water Pollution Control Ordinance to improve licence application procedures and to enhance enforcement effectiveness.

Targets for 2002

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2002
Environmentally-Sound Waste Management and Facilities	<ul style="list-style-type: none"> ■ To develop proposals to tighten up controls on illegal disposal of waste and to enhance waste reduction initiatives. ■ To implement on-going and new initiatives under the Waste Reduction Framework Plan. ■ To complete the study on expanding existing landfills and on potential sites for new waste disposal facilities. ■ To prepare a draft Waste Management Plan to identify the long-term waste management needs of Hong Kong. ■ To develop the implementation arrangements of the landfill charging scheme and propose the associated legislative framework. ■ To complete an expression of interest exercise for recycling waste tyres and glass . ■ To commission a pilot facility for recycling electrical and electronic appliances. ■ To complete an expression of interest exercise in 2002 for the development of integrated waste management facilities for municipal solid waste. ■ To complete a preliminary study for the development and management of a recovery park. ■ To award a contract under a land licence arrangement for composting food waste at Ngau Tam Mei Composting Plant. ■ To commence construction of a soccer-cum-baseball grass pitch at the former Sai Tso Wan Landfill. ■ To commission the Ma Wan Refuse Transfer Facility.
Effective Enforcement and Emergency Response	<ul style="list-style-type: none"> ■ To develop a centralized enforcement information archive as a reference tool for enforcement staff and senior management to use in enhancing enforcement actions. ■ To collaborate with other departments on the implementation of the Integrated Call Centre, which streamlines the handling of pollution complaints and enquiries on environmental pollution issues. ■ To implement a pilot GIS-based pollution complaint database system and review its effectiveness in complaint investigation. ■ To ensure each local control office reviews its main control/enforcement priorities taking into account its specific local activities and conditions. Specific intensive enforcement activities will be organised on an as-needed basis.
Building Partnerships	<ul style="list-style-type: none"> ■ To develop a "Self-Learning / Train-the-Trainer" training package to help construction workers observe and meet environmental law requirements. ■ To continue developing the partnership programme with the property management sector by assisting them in adopting good environmental practices and providing a clean and healthy living environment for the community. ■ To enhance the partnership programme with the vehicle repair trade and promote the adoption of environmentally friendly practices and pollution control technologies by the trade.

Targets for 2002

Major Initiatives under EPD's Programmes:

Reporting areas	Targets for 2002
Environmental Awareness and Education	<ul style="list-style-type: none"> ■ To implement Phase VI of the Waste Recycling Campaign in Housing Estates for 2002-2003 to allow 300 additional housing estates to participate ■ To invite 660 schools and over 10 700 students to join the Student Environmental Protection Ambassador Scheme in 2002-2003. ■ To conduct 180 training workshops to train 3 600 stakeholders to be green leaders in 2002-2003 ■ To conduct seven environmental education training workshops for 170 primary teachers in 2002-2003. ■ To extend the Waste Separation and Recycling Scheme in Schools to allow 200 additional schools to participate. ■ To arrange 110 community visits by the mobile Environmental Resource Centre in 2002-2003.

Initiatives to Strengthen the Environmental Performance of Our Internal Operations:

Reporting areas	Targets for 2002
Corporate Environmental Management	<ul style="list-style-type: none"> ■ To review the environmental aspects of EPD's internal activities. ■ To implement recommendations from the 2001 gap analysis of our Environmental Management System (EMS) and ISO 14001 Standard.
Minimising the Impacts of Our Operations	<ul style="list-style-type: none"> ■ To continue the close supervision of our waste facilities contractors aiming for full compliance with both the legal and contractual environmental requirements. ■ To achieve full compliance with the legal and departmental environmental requirements in our laboratories and field operations.
Greener Office	<ul style="list-style-type: none"> ■ To implement further energy saving plans for the lighting and air conditioning systems in our Southorn Centre offices. ■ To devise an action plan to provide a greener transport service for our operations, and promote greater use of efficient and environmentally-friendly means of transport. ■ To explore further energy and paper saving measures for our office operations.
Staff Awareness, Training and Participation	<ul style="list-style-type: none"> ■ To organize more training opportunities for our staff. ■ To promote staff participation and contributions to complement government-wide waste reduction initiatives.

Verification Statement



Verification Objectives

BMT Asia Pacific Limited was commissioned by the Environmental Protection Department (EPD) to conduct an independent verification of its Environmental Performance Report 2002. The objectives were to verify claims made in the report, as well as the data collection systems supporting these claims. We were also asked to assess the comprehensiveness of the report in covering EPD's key environmental programme areas and to provide recommendations for improving future reports.

This statement is issued based on the findings of the verification and represents a wholly independent opinion of Environmental Performance Report 2002. BMT Asia Pacific was not involved in any aspect of the preparation of the report.

Approach to Verification

The verification was conducted from 14 to 20 June 2002. Meetings were held with professional and technical staff during which specific claims were discussed and substantiated, and data was sampled and examined. Where further investigation was needed, additional meetings were held with the senior managers responsible for the relevant programme areas.

The following elements of the report were sampled during our verification:

- Environmental policy setting and programme implementation in the areas of air, noise and water/sewage;
- Facility operation including that for EPD laboratories and contracted waste facilities;
- Legal compliance;
- Contractor management;
- Emergency preparedness and response;
- Community and business sector partnerships;
- Internal green management, auditing and greening initiatives;
- Staff awareness, training and participation; and
- Target setting.

Results of the Verification

During the verification, EPD provided data and information to satisfy our verification and data review requirements. The results of the verification process are summarised below.

Verification Statement

Report Accuracy

- The claims made in Environmental Performance Report 2002 and examined in our verification represent an accurate account of EPD's actions and performance in the year 2001;
- These claims are supported by data and information appropriately extracted from data collection systems; and
- Data collection systems are robust and effective, with data and information collected, recorded, cross-checked, stored and analysed in a systematic manner in accordance with specified parameters.

Report Coverage and Relevance

- The report provides a balanced account of EPD's performance with respect to its major areas of responsibility, key programme areas and environmentally significant aspects relevant to its daily operations;
- The report sufficiently reflects EPD's specific actions in the year 2001 and planned targets for the year 2002 required to achieve its policy commitments;
- The report presents EPD's efforts to collaborate with the Guangdong authorities to address Hong Kong's environmental issues in a broader, regional context; and
- The report demonstrates EPD's contribution to furthering sustainable development in Hong Kong.

Recommendations for Future Reports

In future reports, EPD is encouraged to:

- Develop and adopt a performance assessment scale with defined grading to effectively translate the Department's progress into systematically assessed performance levels, particularly for long-term strategies, programmes and territory-wide schemes;
- Based on yearly performance levels and defined longer-term goals, report on the Department's progress towards these goals and any adjustments to programme scope, targets and delivery schedule that may arise;
- Set specific, measurable targets that extend beyond the implementation of ongoing programmes to include targets that focus on achieving the Department's broader improvement strategy;
- Ensure linkages between targets from year to year, particularly for phased targets in long-term programmes and targets that have not yet been achieved; and
- Integrate sustainability considerations into all programme areas, planned actions and targets where appropriate.

26 June 2002



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Managing Director,
BMT Asia Pacific Limited



Anne Copeland Chiu
Lead Verifier,
BMT Asia Pacific Limited



Deanna Li
Verifier and Data Reviewer,
BMT Asia Pacific Limited

**Environmental Protection Department's
ENVIRONMENTAL PERFORMANCE REPORT 2002**

Feedback Form

We would welcome your valuable feedback on Environmental Protection Department's **Environmental Performance Report 2002** (the Report), which would be most useful for improving our report in the coming year. Please complete this form and post it back to us on the address overleaf or fax to **2834 8845**. You may also send any comments by email to: **enquiry@epd.gov.hk**. Thank you.

1. **How did you find out about the Report?**

2. **Did you find the Report informative?**

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

4. **Which information did you find particularly useful?**

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

6. **How can we improve the Report?**

7. **Other comments and suggestions:**

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

(optional)

Name: _____ Telephone: _____
Address: _____

STAMP

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