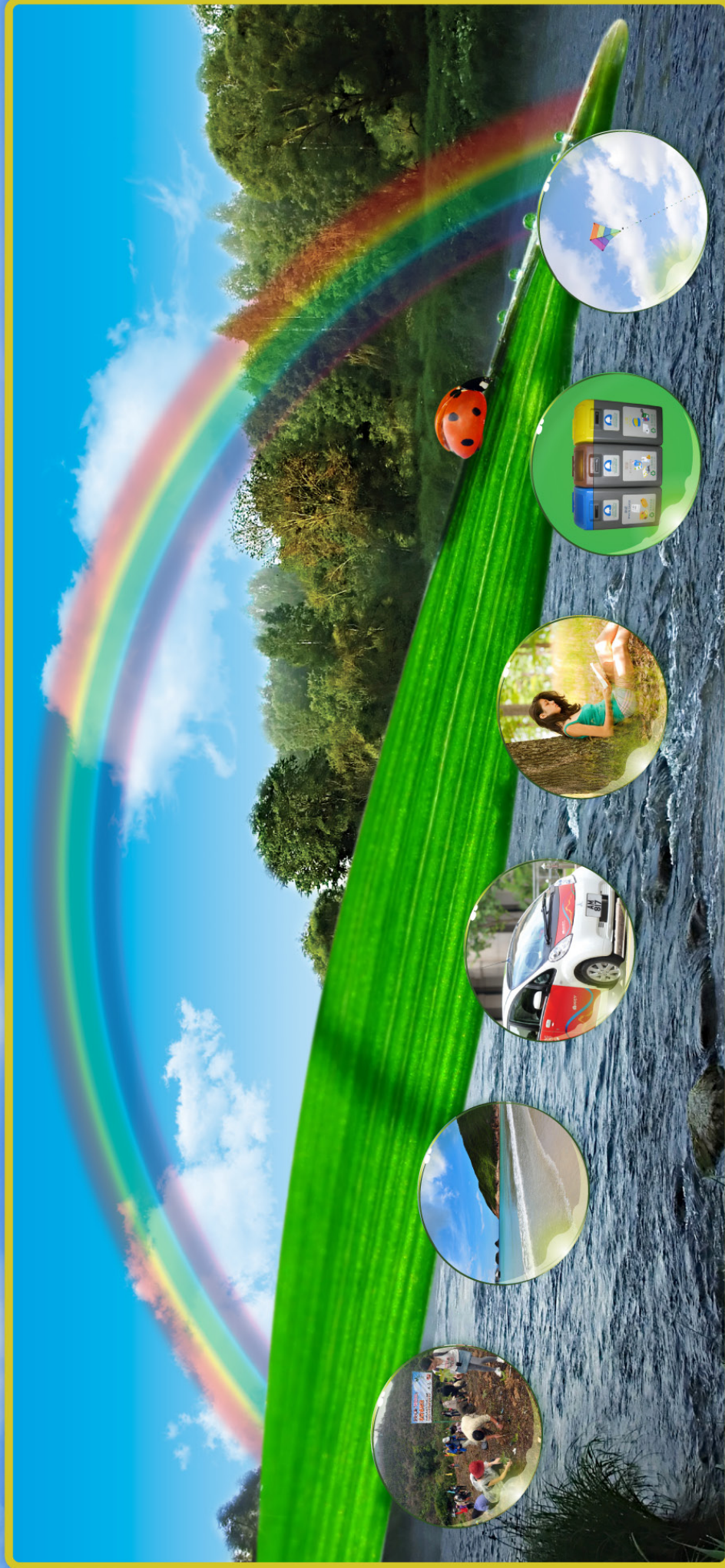


環保工作報告 2012 Environmental Performance Report





Contents

Foreword

Executive Summary

1 Scope

2 Our Profile

1. Organisation and Governance

2. Vision and Strategy

3 Environmental Impacts Of Our Operations

1. Our green management system

2. Minimising energy and resources consumption

3. Our waste management facilities

4. Promoting green procurement

4 Improving Hong Kong's Environment

1. Better Air Quality

2. Better Water Quality

3. Environmentally Sound Waste Management

4. Greener Energy Management

5. Nature Conservation

6. Quieter Environment

7. Cross-boundary and International Co-operation

8. Prevention and Mitigation Through Environmental Assessment

5 Social Engagement

1. Building Partnerships and Encouraging Compliance

2. Promoting Community Involvement

3. Consulting the Community

4. Engaging Our Staff

6 Our Economic Impacts

1. Investment in Sustainability

2. Economic Impacts of Our Policies and Programmes

7 Targets - Our Progress and 2012 Aims

1. Better Air Quality

2. Better Water Quality

3. Environmentally Sound Waste Management

4. Greener Energy Management

5. Nature Conservation

6. Quieter Environment

7. Cross-boundary and International Co-operation

8. Prevention and Mitigation Through Environmental Impact Assessment

9. Sustainable Development

10. Building Partnerships and Encouraging Compliance

11. Promoting Community Involvement

12. Internal Operations

13. Our Staff

Appendix

I Environmental and Energy Policy

II ENB / EPD Offices and Facilities

III Environmental Performance Reports of Government Bureaux / Departments and Agencies

Feedback



Foreword



2011 saw welcome signs of progress for Hong Kong's environment. We improved waste recovery, our beach water quality remained good and we continued to measure improvements in air quality (though not, admittedly, at roadside level). These achievements are important because they show that it is possible to reverse damage and improve our environment.

As a result of our efforts to reduce and recover municipal solid waste (MSW) in collaboration with all sectors of society, we maintained a high MSW recovery rate this year. The Programme on Source Separation of Waste reaches 80 per cent of households and a growing number of commercial buildings. We continue to implement programmes targeting the recovery of specific items such as compact fluorescent light bulbs and rechargeable batteries. Moreover, in 2011 we also introduced the Community Recycling Network, which will extend the collection of recyclables into various publicly accessible places and expand the types of recyclables collected.

We also announced a comprehensive waste management strategy during the year which builds on the previous policy framework for the management of MSW and carries our programme forward. It sets "reduce, recycle and proper waste management" as the objectives revolving around three core strategies: strengthening the waste reduction effort, enhancing waste recycling, and developing facilities for treating and disposing of future waste loads. Even with substantial recycling, there is still a need to dispose of waste. By introducing advanced technologies, we hope to ensure sustainable outlets for waste disposal.

Beach water quality has been a major success story for the Environmental Protection Department. We have seen steady improvements over the years and in 2010, for the first time, all beaches met the bacteriological water quality objectives. This result was repeated in 2011 and led to the reopening of four beaches that had previously been closed due to poor and unstable water quality. The beach reopenings were made possible by a combination of sewerage works around the beaches and the commissioning of the Advance Disinfection Facilities to remove at least 99 per cent of bacteria from the treated effluent from the Stonecutters Island Sewage Treatment Works. Of course, sustained improvements in our water quality will still require us to fully implement the Harbour Area Treatment Scheme and other sewerage works. We are continuing to progress towards that goal.

Air quality is an issue of much public attention in Hong Kong. In 2011 we continued to measure lower levels of certain pollutants – a welcome sign that our internal efforts and our joint programme with Guangdong are having an impact. However, roadside air quality remains a concern. Given that, we announced a raft of measures to reduce emission from vehicles, including a \$300 million Pilot Green Transport Fund, pilot low-emission zones for buses in busy corridors, \$150 million to help replace the catalytic converters on LPG taxis and light buses with new ones and trials of cleaner technology. These are in addition to our ongoing programmes. There is certainly room for more aggressive actions, and we will continue to strive to gain community support in this regard.

Another milestone in 2011 was our first joint public consultation with Guangdong and Macao. For three months, citizens of all three jurisdictions were invited to comment on initial proposals for the Regional Cooperation Plan on Building a Quality Living Area. Consultation sessions were also organised. We hope this will help make people more aware that regional cooperation is important for building a green and quality living environment in the Greater Pearl River Delta region.

Hong Kong also continued to address its international obligations in regard to climate change. We have been raising awareness through the Combating Climate Change Campaign launched by the Environmental Campaign Committee and in 2011 the Council for Sustainable Development launched a series of public engagement activities on “Combating Climate Change: Energy Saving and Carbon Emission Reduction in Buildings”. We have also stepped into a leadership role through becoming a member of the Steering Committee of the C40 Cities Climate Leadership Group. These “big-picture” efforts are being supported through different policy measures, such as fully implementing the second phase of the Mandatory Energy Efficiency Labelling Scheme and tightening the Building Energy Code in bringing the Buildings Energy Efficiency Ordinance into full operation.

One last thing that merits attention is the development of a green economy in Hong Kong. The Government supported our environmental services sector to participate in environmental trade exhibitions in Beijing and Hong Kong in 2011, and invited delegates from several provinces in China to attend the Hong Kong event. Environmental industries in Hong Kong increased employment by 11.3 per cent in 2010 over 2009 and saw value-added growth of close to 20 per cent in the same period. We will continue to support this industry as it seeks new opportunities to develop.

Hong Kong has made very welcome progress improving and protecting its environment in 2011. The momentum is on our side and we expect that our continued efforts and investment will enable us to achieve even greater improvements in the coming years.

I would like to invite readers to help us improve by providing feedback on our performance and on this report. Feedback may be sent via the online [feedback form](#) or by e-mail to epr@epd.gov.hk.



Ms Anissa Wong, JP
Permanent Secretary for the Environment /
Director of Environmental Protection



Executive Summary

1. The Environment Bureau (ENB) and the Environmental Protection Department (EPD) are dedicated to improving Hong Kong's environment while addressing long-term issues related to sustainable development and climate change.
2. We oversee eight programme areas that relate to our goals. Our policies and programmes are developed in consultation with stakeholders and the community; on issues related to our regional environment, we also work closely with our counterparts in Guangdong and Macao. The ENB and EPD also oversee the fulfillment of Hong Kong's international obligations in relation to climate change, biological diversity and other environment-related issues.
3. Internally, we seek to manage and reduce our impacts on the environment to the greatest extent possible, and to support other Government departments in managing their internal impacts.
4. The summary of our achievements in 2011 shows our progress in addressing the environmental, social and economic aspects that make up the triple bottom line of sustainable development.

Environmental	Social	Economic
<ul style="list-style-type: none"> • Reduced our energy consumption by 1.7 per cent, well exceeding our target of 1 per cent reduction. • Promoted green procurement through circulars to Government departments asking them to include green features in their tender requirements; prepared a contract for the purchase of B5 diesel. • Introduced a series of measures to reduce roadside air pollution, such as the Pilot Green Transport Fund, pilot low-emission zones for franchised buses in busy corridors and funding for new catalytic converters on LPG taxis and light buses. • Announced a comprehensive waste management strategy, "Reduce, Recycle and Proper Waste Management", to tackle Hong Kong's waste problem. • Launched the Community Recycling Network. 	<ul style="list-style-type: none"> • Completed a joint three-month public consultation with Guangdong and Macao on initial proposals for the Regional Cooperation Plan on Building a Quality Living Area. • Consulted the public on the proposal of restricting the sale of energy-inefficient incandescent light bulbs. • Saw the Council for Sustainable Development launch a public engagement process on "Combating Climate Change: Energy Saving and Carbon Emission Reduction in Buildings". • Consulted the public on extending an environmental levy scheme on plastic shopping bags to cover all retail outlets. 	<ul style="list-style-type: none"> • Allocated a total of \$450 million to improve roadside air pollution (\$300 million to the Pilot Green Transport Fund and \$150 million to help vehicle owners to replace the catalytic converters of their LPG taxi and light bus with new ones). • Earmarked \$50 million through the Environment and Conservation Fund to subsidise setting up of on-site food waste treatment facilities at housing estates. • Implemented the Clinical Waste Control Scheme in which users pay \$2.7 per kilogramme to have their waste treated at the Chemical Waste Treatment Centre. • Injected \$500 million into the Environment and Conservation Fund.

- Became a member of the Steering Committee of the international C40 Cities Climate Leadership Group; established the Hong Kong/Guangdong Joint Liaison Group on Combating Climate Change.
- All Hong Kong's gazetted beaches complied with water quality objectives for the second year in a row.
- Set up the Task Force on External Lighting to advise the Government on how to tackle the issues relating to external lighting.
- Extended the Mandatory Energy Efficiency Labelling Scheme to two new products: washing machines and dehumidifiers.
- Extended the international Convention on Biological Diversity, and the Cartagena Protocol on Biosafety to the Convention to Hong Kong.



1 Scope

1. This Report describes the efforts of the Environment Bureau (ENB) and Environmental Protection Department (EPD) in 2011 to improve Hong Kong's environment, reduce the impacts of our operations, and contribute to sustainable development in Hong Kong.
2. The ENB is the chief administrative entity in the Hong Kong SAR Government responsible for environmental and sustainability matters, and the EPD is one of its main branches. Given that the environment is the primary focus of our work, this report places particular emphasis on environmental issues. However, we also give consideration to other sustainability issues as far as possible with reference to the Global Reporting Initiative.
3. Our target readership includes members of the Executive and Legislative Councils, academics, green groups, local and overseas organisations and businesses, members of the general public with an interest in environmental protection and other government bodies.
4. The reporting period covers 1 January 2011 - 31 December 2011, unless otherwise stated. This report is published in English and Chinese on our website to reduce paper consumption. All monetary figures are in Hong Kong dollars. Further details of our programmes and policies are contained in our annual report, Environment Hong Kong 2012 (EHK2012).

Feedback on our Environmental Performance Report 2011

5. Readers are invited to provide feedback and suggestions on our environmental performance through the online feedback form.
6. We received 20 submissions on our 2011 Report. Most rated the report as readable (11 rated it 'good', 8 'average') and one respondent rated it 'poor'. We have tried to respond in this year's EPR by further streamlining our writing and presentation, bearing in mind the breadth of material that is covered. The provision of charts and tables was considered acceptable (4 rated them 'good', 15 'average' and none 'poor'), as was the report's contribution to understanding our environmental performance (10 'good', 9 'average', none 'poor'). Respondents also said they would like more statistical information, illustrations and hyperlinks to other information.
7. Respondents were asked which areas of the report they were most interested in. Under our operations, this was 'minimising energy and resources consumption', followed by our green management system, waste management facilities, and green procurement. Under our policies and programmes, the greatest interest was in air quality, followed by waste management, energy management, water quality, noise management, sustainable development, environmental assessment, and building partnerships and encouraging compliance.

8. Respondents also said they would like more information on, in order of interest, the environmental impacts of our own operations, our efforts to improve Hong Kong's environment, our organisation and governance, our work with stakeholders, our targets, promoting community involvement, our vision and strategy, and our economic impacts. We have endeavoured to provide more features and information in this report to address respondents' comments.



2 Our Profile

1. Organisation and Governance

1.1 The Environment Bureau (ENB) is responsible for developing Government policy and programmes to protect Hong Kong's environment. The Secretary for the Environment reports directly to the Chief Executive and Executive Council on three main programme areas:

- **Energy.** Overall policy is set by the ENB. Energy conservation policy is implemented by the Electrical and Mechanical Services Department.
- **Sustainable development.**
- **Environmental protection.** This covers air, environmental assessment and planning, nature conservation, noise, waste and water. The Environmental Protection Department (EPD), which comes under the ENB, develops and implements policies and programmes in all areas except nature conservation, which is covered by the Agriculture, Fisheries and Conservation Department.

1.2 In addition to protecting Hong Kong's environment, the ENB and EPD also manage their sustainability impacts through the Departmental Environment, Safety and Health Committee, a consultative committee with representatives from management and staff. An Energy and Emissions Management Team works to identify ways of reducing our internal energy consumption and meeting targets under the Clean Air Charter. (More information on our internal operations can be found in Environmental Impacts of Our Operations)

Our numbers in 2011

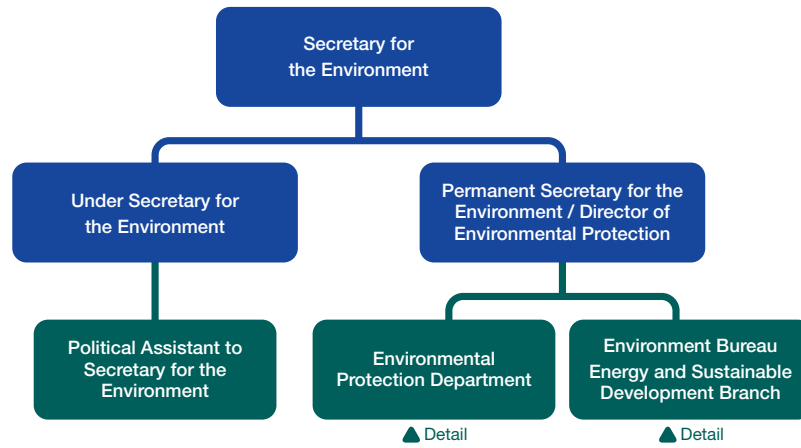
Establishment*	ENB, 39 staff; EPD 1 683 staff. See <u>Engaging our Staff</u> for details.
Expenditure	ENB \$72 million; EPD \$2.910 billion. See <u>Our Economic Impacts</u> for details.
Facilities	ENB, one office; EPD, nine offices, three strategic landfills and more than 40 other facilities. (see <u>Appendix II</u>)
Headquarters	15/F & 16/F East Wing, Central Government Offices, 2 Tim Mei Avenue, Tamar, Hong Kong.
Founding	<u>ENB</u> founded in July 2007. <u>EPD</u> founded in 1986.

* As at 31 December 2011.

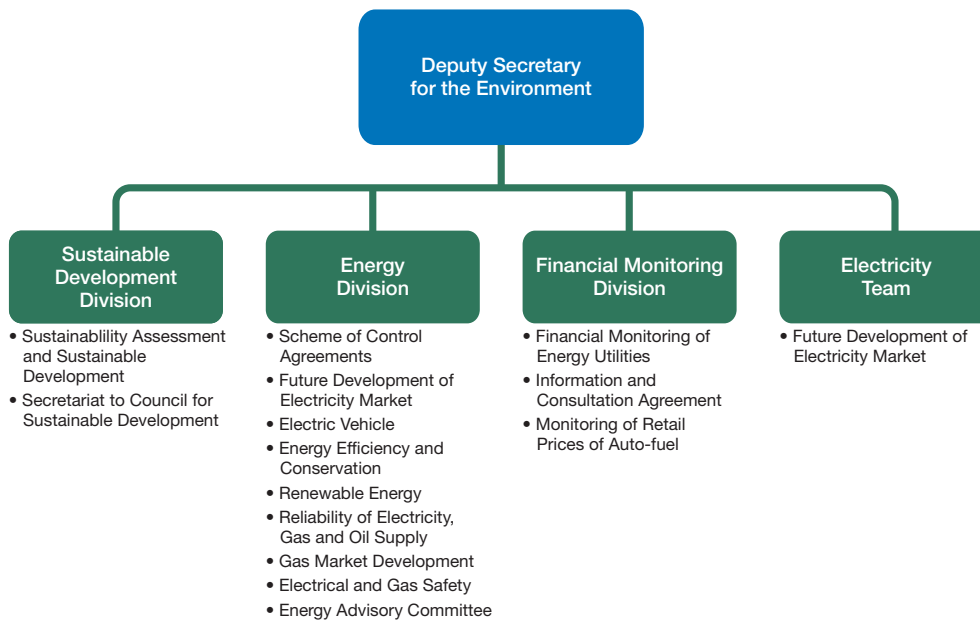


The ENB/EPD headquarters was relocated to the Central Government Offices at Tamar in 2011.

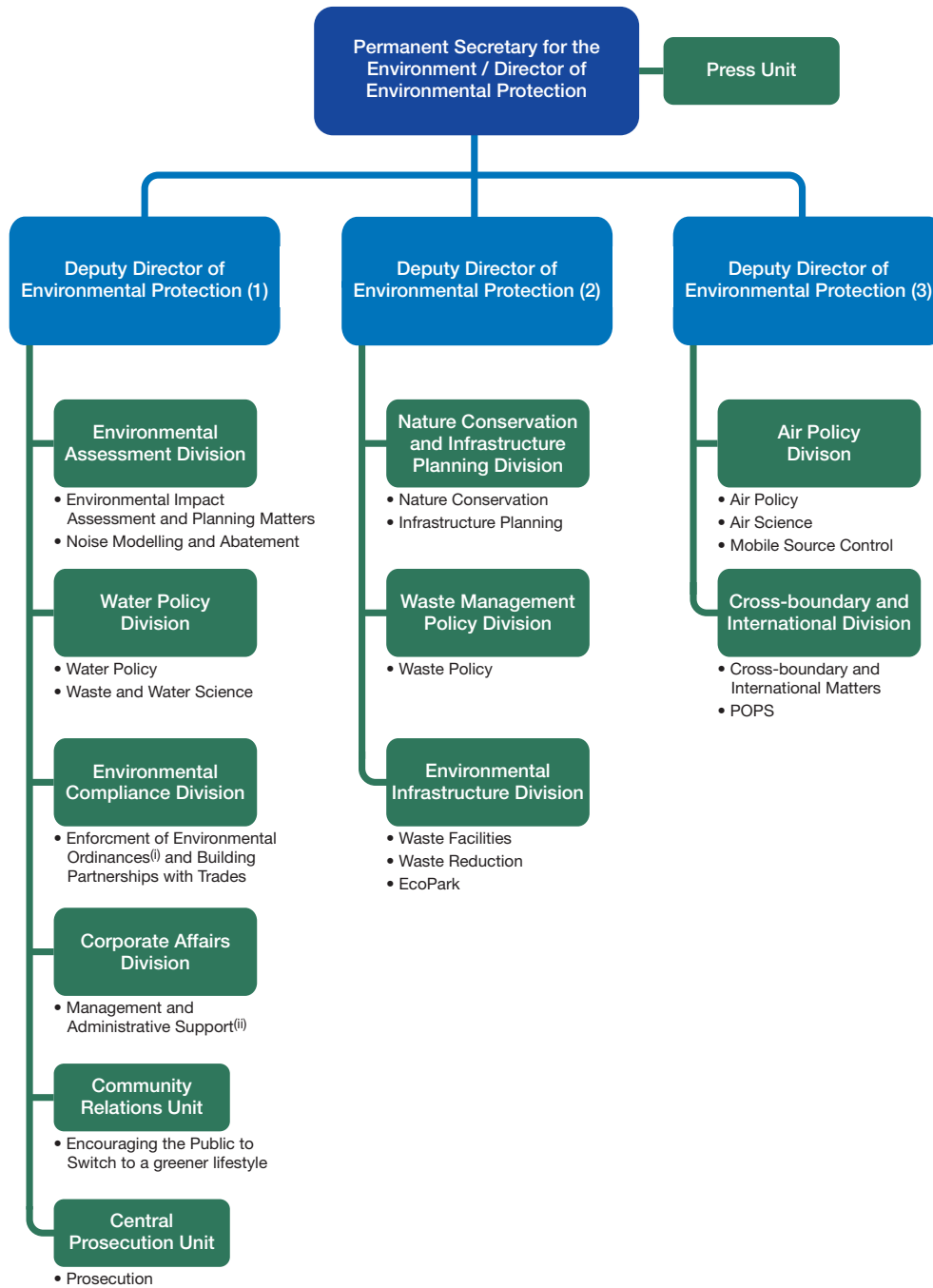
Organisational structure



Environment Bureau Energy and Sustainable Development Branch



Environmental Protection Department



Remarks:

- (i) Major enforcement duties under Air, Environmental Impact Assessment and Planning, Noise, Waste and Water Programmes are carried out by Environmental Compliance Division.
- (ii) Covers corporate environmental management, knowledge management, staff safety and health, human resources management, and information technology.

2. Vision and Strategy

Vision and mission

2.1 Our vision and mission are to achieve a healthy and pleasant environment, to achieve the sustainable development of our city, and to secure a reliable, safe, efficient and reasonably-priced supply of energy.

Environmental and energy policy

2.2 To realise our vision and mission, we have adopted an Environmental and Energy Policy that applies to our services, programmes and internal operations (see full text at [Appendix I](#)). The policy has adopted the following guiding principles:

- compliance with the letter and spirit of environmental laws;
- pre-emption of environmental problems through planning and prevention;
- preparedness for dealing with emergency environmental incidents;
- minimisation of consumption;
- communication of our goals to our staff and the public; and
- training and professional development of our staff.

Strategy

2.3 Eight environmental strategies have been set out to ensure we achieve improvements to Hong Kong's environment and prevent future problems:

Strategy	Goal
Contribute to the formulation of major policies and plans within the Government, including town planning.	Minimise environmental impact of policies, strategies and planning proposals. Incorporate sustainability in decision-making process.
Develop and implement environmental improvement programmes, monitor environmental quality and handle pollution complaints and incidents.	Achieve direct improvements in: <ul style="list-style-type: none"> • Air quality • Noise mitigation • Water quality • Waste management • Nature conservation
Plan and provide waste management facilities.	Ensure waste is handled and disposed of in a sustainable and environmentally responsible manner.
Establish a regulatory control framework and enforce environmental ordinances. Formulate policies on energy supply and develop programmes to promote energy efficiency.	Reduce air, water, waste and noise impacts from polluting activities. Minimise environmental impacts from the production and use of energy.
Build partnerships and engage stakeholders.	Secure better cooperation and build capacity among all sectors in improving the environment and promoting sustainable development.
Deliver environmental education programmes to promote environmental awareness and public participation.	Increase community awareness and support for programmes to enhance our environment.
Support research and professionalism in the environmental disciplines.	Contribute to the development of the environmental management profession in Hong Kong.



3 Environmental Impacts of Our Operations

Our operations cover laboratories, waste facilities and office-based activities. To reduce our environmental impacts, we have:

- implemented an effective green management system;
- introduced measures to minimise energy and resources consumption;
- ensured our waste facilities are managed in the most environmentally-acceptable manner;
- promoted green procurement.

1. Our Green Management System

1.1 We manage our impacts in two ways: through continual monitoring of activities with potentially significant environmental impacts, and through monitoring of our energy / emission performance by our Energy and Emissions Management Team (EEMT). Our efforts have earned a “Class of Excellence” Energywi\$e Label and “Class of Excellence” Wastewi\$e Label in the Hong Kong Awards for Environmental Excellence.

1.2 We maintain good indoor air quality in our offices including environmental resource centres and the IAQ Information Centre. 16 offices are certified under the Indoor Air Quality Certification Scheme.



EPD offices at Revenue Tower.

2. Minimising Energy and Resources Consumption

2.1 We have made pleasing progress in reducing electricity consumption, transport impacts and waste.

Reducing our electricity consumption

2.2 We give priority to making efficient use of energy and we have made steady progress in reducing our electricity consumption. In 2011 we set out to reduce electricity consumption by 1 per cent, then out-performed our expectations by reducing consumption by 1.7 per cent. (see Table 1)

Table 1 - Electricity consumption and emissions 2009-2011*

	2009	2010	2011
Electricity Consumed (GWh)	2.867	2.827	2.779
CO ₂ (tonnes)	2 007	1 979	1 945
SO ₂ (kg)	6 022	5 937	5 836
NO _x (kg)	3 728	3 676	3 613
RSP (kg)	287	283	278

* Most of our offices are in buildings that are shared with other users and have common air-conditioning systems. Since there are no separate meters for measuring individual air-conditioning and related energy use, we have excluded this item from our calculations of office-based energy consumption.

2.3 Our energy-saving management and practical measures include the following:

Overall energy management

- The EEMT looks for new opportunities for further savings.
- Annual self-inspections are conducted in all offices and laboratories to identify areas of improvement.
- Energy Wardens are appointed in all offices to co-ordinate and regularly monitor the implementation of energy-saving measures.
- We adhere to the reporting requirements on energy consumption under the Clean Air Charter signed by the Government in 2006.

Good practices

- Room temperatures are maintained at 25.5 degrees Celsius in summer months and staff are encouraged to dress down in summer.
- Sectional control switches and occupation sensors have been installed.
- Ageing lighting equipment is replaced with energy-saving equipment, using occupation sensors as appropriate.
- Lighting is reduced as appropriate and switched off when not in use. This is reinforced with routine checks and reminders.
- Power-saving features and programmable timers for computers and other equipment are used, and we purchase equipment with energy-efficiency labels.
- Equipment is switched off when not in use and reminders are posted near light switches and office equipment.
- Staff are encouraged to implement green practices through daily green tips and departmental circulars.

Reducing our transport impacts

2.4 We reduced both the mileage and petrol consumption of our vehicle fleet in 2011 (see Table 2). We are actively implementing a number of good practices in this area, including:

- procuring environment-friendly vehicles as new or replacement vehicles, including one more electric vehicle purchased in 2011;
- requiring hybrid vehicles under new waste facilities contracts;
- encouraging EPD staff to walk or use public transport where possible, and to carpool when using Government vehicles;
- promoting green driving practices such as switching off idling engines, making only necessary trips, driving at a steady speed and planning routes to minimise journey time.

Table 2 - Annual fuel consumption and polluting emissions from vehicles 2009-2011

Fuel consumption 2009-2011

Year	Vehicle Fleet	Petrol (litres)	Diesel (litres)	LPG (litres)	Electricity (kWh)	Mileage (km)	ULSD ^[1] (litres)
2009	52 vehicles ^[2]	100 713	60	2 693	-	673 000	92 000
2010	53 vehicles ^[3]	100 631	60	697	979	685 400	91 900
2011	52 vehicles ^[4]	99 299	60	734	1 090	661 300	80 900

Pollutant emissions 2009-2011 (kg)

	SO ₂			NO _x			RSP		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Vehicle Fleet	-	2	2	1 022	1 021	974	178	175	165
Marine Vessel	8	8	7	4 639	4 634	4 079	183	182	161

Notes:

[1] ULSD is ultra low sulphur diesel and is used by our marine monitoring vessel, the 'Dr Catherine Lam'.

[2] 48 petrol, one LPG, two hybrid and one Euro II diesel.

[3] 47 petrol, one electric, two LPG, two hybrid and one Euro II diesel.

[4] 46 petrol, two electric, two LPG, one hybrid and one Euro II diesel.

Reducing waste

2.5 We reduce waste through recycling and through better use of our resources.

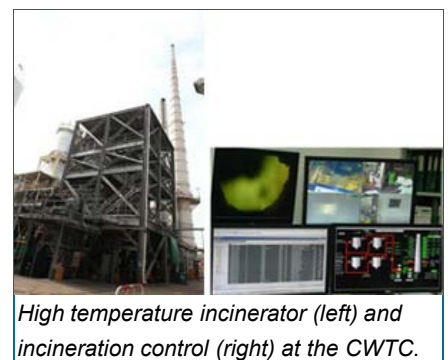
2.6 On recycling, in 2011 we recycled 41 223 kg of waste paper and 393 kg of plastic waste. We also continued to collect used printer cartridges and photocopier toner cartridges for recycling.

2.7 On resources use, we have done the following:

- reduced photocopy paper use by 2.2 per cent over 2010 through on-going paper-saving initiatives such as e-applications and processing for internal procurement and leave application and the electronic sharing of reports and presentation materials;
- introduced a Consumables and Inventory Recycling Scheme to re-use and recycle items;
- identified a software programme that can reduce the consumption of toner during printing and started installing it on all of our computers;
- introduced a programme to refurbish our old computers and donate them to the needy.

3. Our Waste Management Facilities

3.1 We ensure through contractual obligations that our waste management facilities meet international air emission standards, such as the latest European Union (EU) standards. In 2011 this was extended to the new Sludge Treatment Facilities at Tsang Tsui in Tuen Mun, for which construction began in 2011, and the Chemical Waste Treatment Centre (CWTC), which completed upgrading during the year to meet the latest EU air emission standards. We are also exploring how to utilise emissions by exploring the viability of landfill gas utilisation at the South East New Territories Landfill.



High temperature incinerator (left) and incineration control (right) at the CWTC.

3.2 Overall, the operators of waste management facilities are contractually required to control and monitor emissions. New waste management contractors are required to implement an environmental management system that complies with ISO 14001 standards, and to obtain certification for long-term contracts. They are also encouraged to sign the [Clean Air Charter](#) to commit to reducing their emissions.

4. Promoting Green Procurement

4.1 The Government has taken the lead in adopting a green procurement policy in order to set an example to business and help promote a market for green products. Specific initiatives include:

- Developing [green specifications](#) for more than 100 products in co-operation with the Government Logistics Department (as of the end of 2011);
- Issuing a circular to all Government bureaux and departments in March 2011 to encourage them to include green features in the tender requirements for purchasing goods and services;
- Issuing a joint circular with the Development Bureau in January 2011 encouraging the use of recycled and green materials in public works projects;
- Preparing a 16-month contract to supply 3.5 million litres of B5 diesel (which contains five per cent biodiesel) to several government departments from January 2012. This was done in close co-operation with the Government Logistics Department

4.2 We are also involved in the Government's [e-Procurement pilot programme](#), which was launched in September 2009 to simplify procedures and reduce paper use.

See also: [Targets - Our Progress and 2012 Aims.](#)



4 Improving Hong Kong's Environment

Hong Kong is a compact, fast-paced and highly productive city that faces an assortment of pressures on the quality of its air, water and land resources. The Environment Bureau (ENB) and Environmental Protection Department (EPD) have developed a programme to address and prevent problems, and are working closely with colleagues in other Government departments to identify and implement effective solutions. The ENB and EPD also work with counterparts in Guangdong and Macao on programmes that have regional benefit and will help to achieve a long-term vision for improving the quality of the Pearl River Delta's environment.

Our progress in 2011 is highlighted in the following sections:

1. [Better Air Quality](#)
2. [Better Water Quality](#)
3. [Environmentally Sound Waste Management](#)
4. [Greener Energy Management](#)
5. [Nature Conservation](#)
6. [Quieter Environment](#)
7. [Cross-boundary and International Co-operation](#)
8. [Prevention and Mitigation Through Environmental Assessment](#)

1. Better Air Quality

Mission:

To protect the health and well being of the community by achieving and maintaining satisfactory air quality through intervention in the planning process and by enforcing the controls in the Air Pollution Control Ordinance and the Ozone Layer Protection Ordinance.

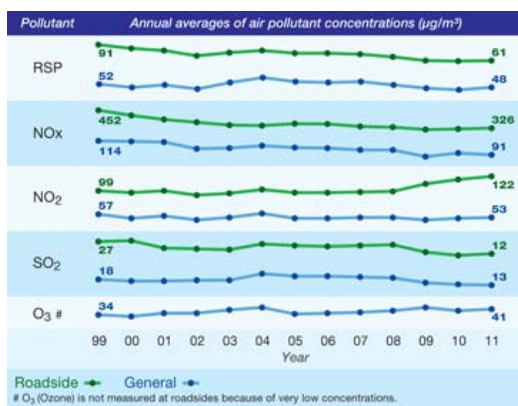
Air quality in 2011

1.1 Air quality in Hong Kong is continuing to improve by several measures as a result of local programmes and regional co-operation. Levels of sulphur dioxide (SO₂), respirable suspended particulates (RSP) and nitrogen oxides (NO_x) have all fallen in recent years. However, there has been an increase in nitrogen dioxide (NO₂) levels, especially at roadsides, and of ambient levels of ozone. We are now working to address these (see below).

1.2 Our Air Quality Objectives are being amended in light of new scientific findings and new guidelines published by the World Health Organisation. The public has been consulted and we are finalising recommendations for submission to the Legislative Council as soon as possible.

1.3 Regionally, Hong Kong and Guangdong had agreed targets for reducing levels of SO₂, NO_x, RSP and volatile organic compounds to well below 1997 levels by 2010. Hong Kong fully expects to achieve the 2010 emission reduction targets. The two administrations are now assessing the results, which will form the basis of a joint study on further reducing emissions up to 2020.

Figure 1 – Air quality trends in Hong Kong 1999-2011



[ENLARGE](#) [SEE DATA](#)

Table 3 – Compliance status of long-term (annual) Air Quality Objectives in 2011

Station	NO ₂ 1-year	TSP 1-year	RSP 1-year	SO ₂ 1-year	Lead 3-months
General Station	Central/Western	✓	✓	✓	✓
	Eastern	✓	--	✓	✓
	Kwai Chung	✓	✓	✓	✓
	Kwun Tong	✓	✓	✓	✓
	Sham Shui Po	✓	✓	✓	--
	Tsuen Wan	✓	✓	✓	✓
	Sha Tin	✓	✓	✓	--
	Tai Po	✓	✓	✓	--
	Tung Chung	✓	✓	✓	✓
	Yuen Long	✓	*	✓	✓
Roadside Station	Tap Mun	✓	--	✓	--
	Causeway Bay	*	--	*	✓
	Central	*	--	*	✓
	Mong Kok	*	*	✓	✓

Notes : "✓" Complied with AQO "*" Violated the AQO "--" Not Measured

[ENLARGE](#)

Measures to reduce air pollution

1.4 **Road transport** continues to be a major source of pollution in Hong Kong, although as mentioned, some major air pollutants at the roadside have been falling significantly since 1999 (see Figure 1). Motor vehicles are a major source of NO₂, which is on the rise. We therefore are placing priority on reducing motor vehicle emissions. In 2011 we introduced the following measures:

- a \$300 million Pilot Green Transport Fund to promote greener transport technologies;
- a ban on idling engines (the Motor Vehicle Idling (Fixed Penalty) Ordinance).
- pilot low-emission zones for franchised buses in busy urban corridors in Causeway Bay, Central and Mong Kok;
- Deploying remote sensing equipment to detect excessive emissions from petrol and liquefied petroleum gas (LPG) vehicles, and setting aside \$150 million to help vehicle owners to replace the catalytic converters of their LPG taxis and light buses with new ones;
- the promotion and testing of electric vehicles.



An EPD officer and traffic warden promote the “switch off idling engines” initiative to the driver of a stationary vehicle.



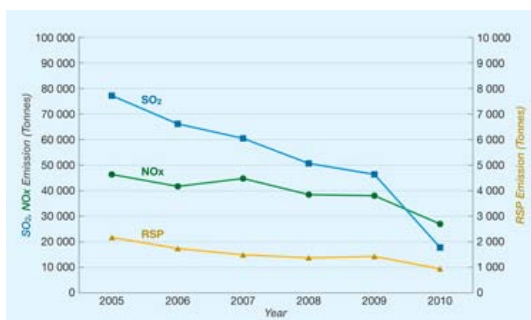
Causeway Bay is one of three districts for setting up pilot low-emission zones.

1.5 **The power sector**, which accounts for 50 per cent of Hong Kong’s SO₂ emissions and also significant levels of NO_x and RSP, has seen emission levels fall substantially since 2005 as a result of emission caps (see Figure 2). Levels are expected to fall further under the Technical Memorandum promulgated in December 2010 that requires the power sector to reduce emissions of these three pollutants by 34-50 per cent by 2015.

1.6 **Marine vessels**: Navigation is a major source of SO₂, RSP and NO_x in Hong Kong. In 2011 the Hong Kong Government announced efforts to reduce pollution from this source, including promoting the use of low-sulphur fuel.

1.7 **Non-road mobile sources**: Non-road vehicles and mobile machinery that are used at the airport, container terminal and construction sites also emit air pollution. Legislation is being drafted on proposed statutory emission standards following a consultation with stakeholders in 2011.

Figure 2 - Emissions from the Power Sector 2005-2010



[ENLARGE](#)

[SEE DATA](#)



Container terminal facilities at Kwai Tsing.

See also: [Targets - Our Progress and 2012 Aims](#).

2. Better Water Quality

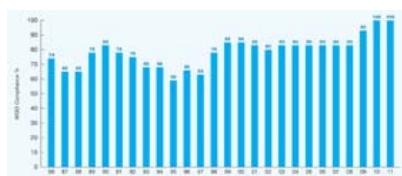
Mission:

To achieve marine and fresh water quality objectives that will safeguard the health and welfare of the community and meet various conservation goals, by planning for the provision of sewage facilities, intervening in the planning process and enforcing the controls in the Water Pollution Control Ordinance and the Dumping At Sea Ordinance.

Water quality in 2011

2.1 Our water pollution control programmes aim to achieve Water Quality Objectives (WQOs) for our marine waters, rivers and streams and beaches. In 2011, there was the very welcome news that all 41 gazetted beaches had achieved 100 per cent compliance with WQOs for the second year running (see Figure 3). The compliance rates with marine and river WQOs were also good at 75 per cent and 88 per cent respectively (see Figure 4 and Figure 5). We will continue to press ahead with our water pollution control programmes to achieve and sustain clean waters across the whole of Hong Kong.

Figure 3 - WQO compliance in beach water in Hong Kong 1986-2011



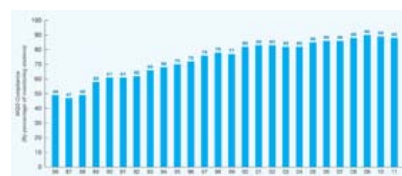
[ENLARGE](#) [SEE DATA](#)

Figure 4 - WQO compliance in marine water of Hong Kong 1986-2011



[ENLARGE](#) [SEE DATA](#)

Figure 5 - WQO compliance in inland water of Hong Kong 1986-2011



[ENLARGE](#) [SEE DATA](#)

Improving water quality in the harbour

2.2 The Harbour Area Treatment Scheme (HATS) is a strategy for properly collecting, treating and disposing of sewage generated around Victoria Harbour. HATS Stage 1 was commissioned in 2001 and treats 75 per cent of the sewage generated from the Victoria Harbour catchment; Advance Disinfection Facilities were commissioned in 2010 to disinfect the treated sewage. HATS Stage 2A is currently under construction for commissioning in 2014 to provide treatment and disinfection for the remaining 25 per cent of sewage. To ensure good water quality in the harbour in the long term, an even higher level of treatment through underground biological treatment facilities is being considered for HATS Stage 2B and in 2011 town planning procedures were completed to re-zone a site for the facilities.



Map showing schematic layout of sewage conveyance system constructed and implemented under HATS Stages 1 and 2A, and location of Biological Treatment Works under Stage 2B.

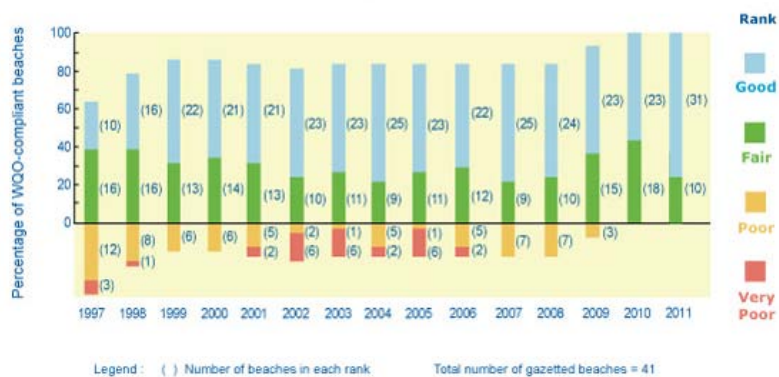
[ENLARGE](#)

Beaches and the hinterland

2.3 In June 2011 four Tsuen Wan beaches that were previously closed due to unsatisfactory water quality were re-opened to the public for swimming – Approach, Casam, Hoi Mei Wan and Lido. Another three beaches in the area are expected to be re-opened once beach facilities are upgraded. These achievements were made possible by two initiatives: the opening of the HATS Advance Disinfection Facilities, and the on-going village sewerage programme to connect village houses to the public sewer system.



Annual beach rankings from 1997 to 2011



SEE DATA

See also: [Targets - Our Progress and 2012 Aims.](#)

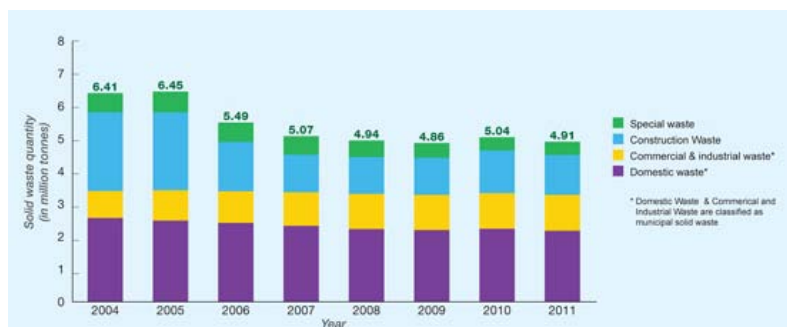
3. Environmentally Sound Waste Management

Mission:

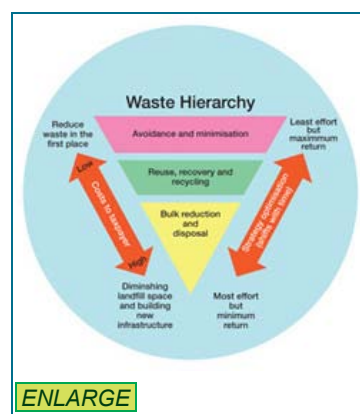
To safeguard the health and welfare of the community from adverse environmental effects associated with the handling and disposal of wastes by developing a sustainable waste management strategy, providing waste management facilities and enforcing the controls in the Waste Disposal Ordinance.

3.1 Hong Kong faces an acute shortage of space at our landfills, which are expected to be exhausted by the mid to late 2010s. This is despite our success in recent years in reducing landfilled waste. Some 4.91 million tonnes of solid waste entered our landfills in 2011 – down 23 per cent from 2004 levels and down 2.6 per cent from 2010. Domestic waste levels have fallen 15 per cent since 2004 while commercial & industrial waste loads have been fairly constant.

Figure 6 - Solid waste landfilled by type 2004-2011



[ENLARGE](#) [SEE DATA](#)



[ENLARGE](#)

3.2 In 2011 we announced a comprehensive waste management programme to deal with this urgent problem through a series of policy tools that enshrine the “polluter pays” principle and create incentives for the community to recycle more and discard less. The main features of the programme are described below.

Reducing waste at source

3.3 The Programme on Source Separation of Waste (SSW), launched in 2005, reached 1 791 housing estates and 732 commercial & industrial buildings by the end of 2011. The Community Recycling Network was launched in 2011 to reach areas not covered by the SSW Programme and expand the range of recyclables collected.

3.4 Producer Responsibility Schemes (PRS) are being expanded. In 2011 we held a public consultation on extending a mandatory 50-cent environmental levy on plastic shopping bags to all retailers, made preparations for a second mandatory PRS for waste electrical and electronic equipment (WEEE), and made plans to consult the public on municipal solid waste charging in 2012.



Developing waste facilities

3.5 **Landfill extensions.** Preparations continued on extending the capacity of the three strategic landfills. In 2011 we achieved the following:

- a feasibility study for the West New Territories Landfill Extension was substantially completed;
- management was underway on the Design and Construction consultancy for the North East New Territories Landfill Extension;
- progress was made on land rezoning for the South East New Territories Landfill Extension.

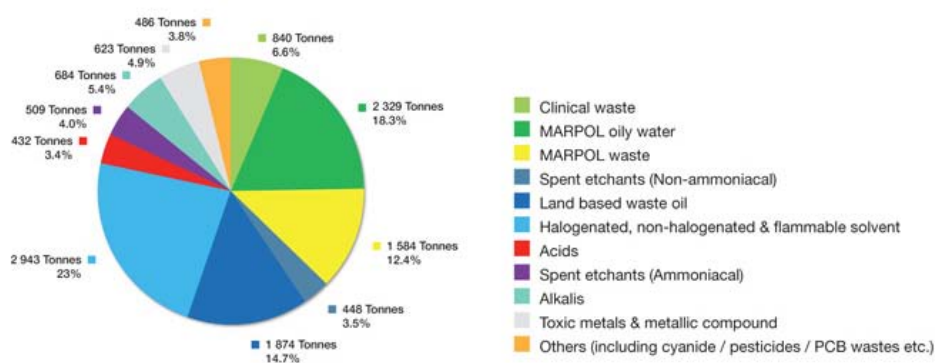
3.6 **Waste treatment.** Several waste treatment facilities are planned to treat and reduce the bulk of waste. In 2011:

- An EIA of two proposed sites for the Integrated Waste Management Facilities (IWMF) Phase One was endorsed by the Advisory Council on the Environment. The Government has decided to build the IWMF at an artificial island near Shek Kwu Chau;
- Tendering started for Phase 1 of the Organic Waste Treatment Facilities with a view to commission the facilities as soon as possible. The Environment and Conservation Fund earmarked \$50 million to subsidise onsite composting of food waste at housing estates;
- Construction began on the Sludge Treatment Facility, which is expected to be commissioned in late 2013;
- For further details, see “Treating Different Kinds of Waste” in EHK2012.

Special wastes

3.7 2011 also saw the introduction of a Clinical Waste Control Scheme, requiring waste producers to arrange proper collection, transport and treatment of their waste. The waste is treated at the Chemical Waste Treatment Centre at a cost to the user of about \$2.7 per kilogramme of waste.

Figure 7 – Waste treated in the Chemical Waste Treatment Centre in 2011



SEE DATA

The Chemical Waste Treatment Centre treated 12 752 tonnes of waste in 2011. The facility has extensive environmental controls and meets current EU emission standards.

See also: [Targets - Our Progress and 2012 Aims.](#)

4. Greener Energy Management

Mission:

To ensure reliable supplies of energy at reasonable prices, promote its efficient and safe use, and at the same time minimise the environmental impacts in the production and use of energy.

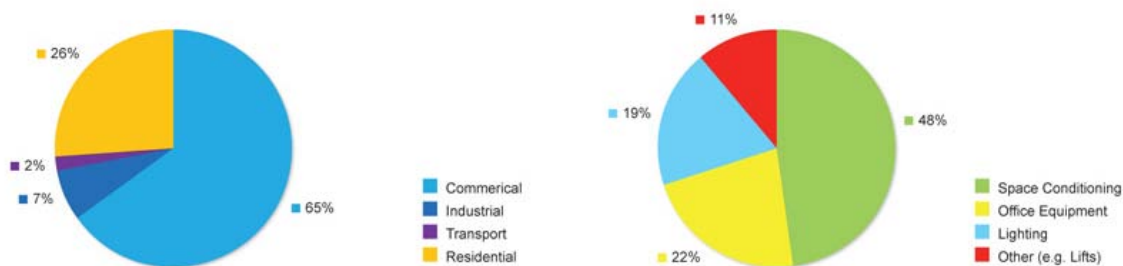
Reducing energy consumption from buildings

4.1 Buildings account for almost 90 per cent of total electricity consumption in Hong Kong. The Government is trying to make buildings more energy efficient to reduce consumption levels. The Buildings Energy Efficiency Ordinance (Cap. 610), which will commence full operation on 21 September 2012, requires new buildings and major retrofitting works in existing buildings to comply with the minimum energy performance standards for lighting, electrical, air-conditioning and lift and escalator installations as set out in the Building Energy Codes. The Government also provides funding for existing buildings to improve their energy efficiency through the Environment and Conservation Fund (ECF).

Table 4 - ECF funding for energy-cum-carbon audits and energy efficiency projects (up to 31 December 2011)

Application Received	Over 1 500 cases
Application Approved	791 cases
Amount Grant	\$309 million
Benefit Buildings	Over 5 300 buildings
Annual Electricity Saving	Around 140 million kWh
Reduction of Carbon Dioxide Emission	Around 98 000 tonnes

Figure 8 – Status of electricity consumption in Hong Kong

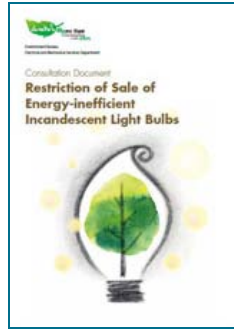


Energy consumption by sectors in 2010

Energy consumption in a modern office building

Promoting more energy-efficient lighting

4.2 Lighting has accounted for about 15 per cent on average of electricity consumption in Hong Kong over the past decade. The Government consulted the public in 2011 on restricting the sale of energy-inefficient incandescent light bulbs (ILBs) which lose 90 per cent of consumed electricity as heat. The Government is also keen to address energy wastage and light nuisance caused by external lighting and has set up a Task Force on External Lighting, which prepared the “Best Practices for External Lighting Installations” guide for publication in January 2012.



This family home light fitting uses incandescent light bulbs (right) for illumination.

Energy efficiency labelling for electrical appliances

4.3 The Mandatory Energy Efficiency Labelling Scheme entered its second phase and was extended to washing machines and dehumidifiers in September 2011. The scheme, launched in 2009, already covers room air-conditioners, refrigerating appliances and compact fluorescent lamps. A Voluntary Energy Efficiency Labelling Scheme has been operating since 1995 and covers 19 products, including LED lamps which were added in 2011.

See also: [Targets - Our Progress and 2012 Aims.](#)

5. Nature Conservation

Mission:

To conserve natural resources and the bio-diversity of Hong Kong in a sustainable manner, taking into account social and economic considerations, for the benefit of the present and future generations of the community.

Protecting our parks

5.1 The Government's nature conservation policy aims to regulate, protect and manage natural resources that are important for the conservation of biological diversity in Hong Kong. We have 24 country parks, four marine parks and a marine reserve, which all have statutory protection. In 2011 the Hong Kong Geopark was accepted into the Global Geoparks Network and subsequently renamed the Hong Kong Geopark of China.



The hexagonal volcanic rock columns of Sai Kung are a unique feature of the Hong Kong Global Geopark of China.



The Geopark visitor centres display various pieces of fossils and models for public viewing.

Protecting country park enclaves

5.2 Country park enclaves are surrounded by or adjacent to country parks, but they are not part of the parks themselves. By the end of 2011, town planning measures had been applied to 42 out of 77 of the enclaves. In June 2011 the Environment and Conservation Fund announced that funding would be available to protect privately-held enclaves with conservation value, under the Management Agreement Scheme.



Long Valley is one of Hong Kong's natural sites of important ecological value.

Protecting biological diversity and biosafety

5.3 The international Convention on Biological Diversity, and the Cartegena Protocol on Biosafety to the Convention, were extended to Hong Kong in May 2011. To ensure its laws and policies are in line with the Convention and the Protocol, Hong Kong began implementing the Genetically Modified Organisms (Control of Release) Ordinance in March 2011.

See also: [Targets - Our Progress and 2012 Aims.](#)

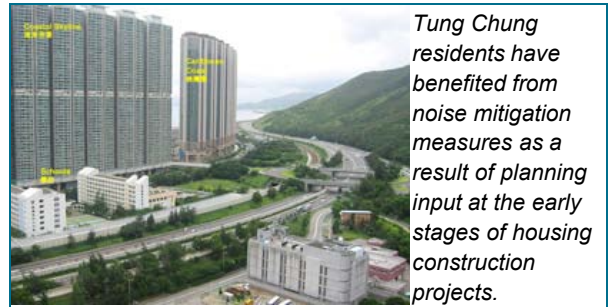
6. Quieter Environment

Mission:

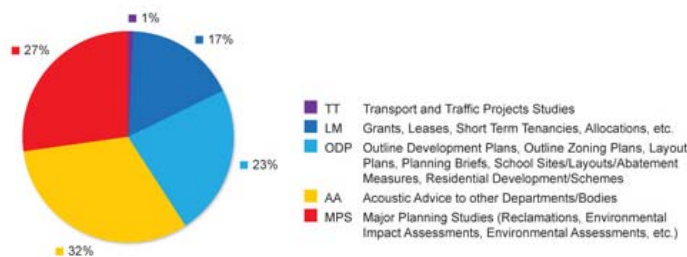
To prevent, minimise and resolve environmental noise problems through formulation of noise policy, intervention in the planning process, implementation of noise abatement measures and enforcement of the Noise Control Ordinance.

Reducing Traffic Noise

6.1 More than one million people in Hong Kong are affected by traffic noise, but an equal number have also benefited from noise control measures implemented by the Environmental Protection Department over the years. These include town planning measures, mitigation measures adopted in the planning of new roads, and the retrofitting of noise barriers and low-noise materials on existing roads. By the end of 2011, eight road sections had been retrofitted benefiting 33 000 people and 53 road sections had been re-surfaced with low-noise materials benefiting 98 000 people.



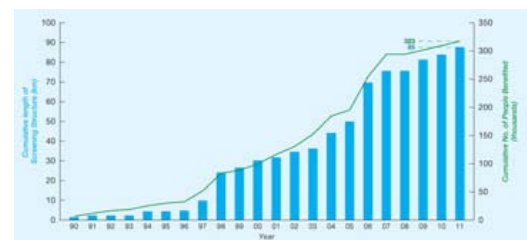
Noise planning advice /cases: Input at the planning stage can help to reduce traffic noise problems.



1205 noise planning advice / cases processed in 2011

[ENLARGE](#) [SEE DATA](#)

Figure 9 - Screening structures to reduce traffic noise 1990-2011



Noise barrier installations have benefited 323 000 people at a cost of \$3.1 billion since 1990. A further \$430 million has been spent insulating over 7 900 flats.

[ENLARGE](#) [SEE DATA](#)

Innovations in Controlling Noise

6.2 We are continuing to explore new and different ways to control noise, such as alternative low-noise surface designs and, recently, acoustic windows to control noise exposure at the noise receiver end.

See also: [Targets - Our Progress and 2012 Aims.](#)

7. Cross-boundary and International Co-operation

Mission:

To protect the environment by tackling cross-boundary pollution problems and by promoting collaborative efforts through regional and international co-operation.

Working with our counterparts in Guangdong

7.1 Hong Kong and Guangdong have worked together for many years to address environmental problems of mutual concern or interest. In 2011 we made progress on key areas of collaboration:

- **Air quality:** Average annual concentrations of sulphur dioxide, respirable suspended particulates and nitrogen dioxide in the Pearl River Delta (PRD) region fell by 49 per cent, 14 per cent and 13 per cent, respectively, from 2006-11 (see also [Better Air Quality](#)). These improvements are the result of emission reduction measures implemented by both sides. Hong Kong and Guangdong are now carrying out a joint study on the next phase for improving regional air quality.
- **Cleaner production partnership:** The [Cleaner Production Partnership Programme](#), launched in 2008, had approved more than 1 700 funding applications from Hong Kong-owned factories in the PRD by the end of 2011.
- **Water quality:** Hong Kong and Guangdong continued to work on a joint study to assess the pollution load carrying capacity of the [Pearl River Estuary](#), while Hong Kong and Shenzhen completed the first review of the “Mirs Bay Water Quality Regional Control Strategy”.



Mr Edward Yau, the then-Secretary for the Environment, speaks at the presentation ceremony for the Hong Kong - Guangdong Cleaner Production Partners Recognition Scheme.

Developing a regional co-operation plan

7.2 The Hong Kong, Guangdong and Macao governments are working on a joint study towards drafting a [Regional Cooperation Plan on Building a Quality Living Area](#), which would transform the greater PRD region into a low-carbon, high-technology, low-pollution city cluster of quality living. Initial proposals were put forward in a joint [public consultation](#) held between September and November 2011. About 90 responses were received and they will be taken into account when finalising the Plan.



Dr Kitty Poon, the then-Under Secretary for the Environment, introduces the initial proposals for the Regional Cooperation Plan on Building a Quality Living Area at a public forum held in October 2011 (left); the consultation document is pictured right.

Co-operating with Macao and other Mainland authorities

7.3 Hong Kong also works closely with its immediate neighbours Shenzhen and Macao. With Shenzhen, we have a Co-operation Agreement on Cleaner Production and by the end of 2011, 400 funding applications had been approved in Shenzhen. We also exchanged expertise in 2011 on vehicle emission control, electric buses and clean energy use by ocean-going vessels.

7.4 With the Macao SAR Government, we exchanged experiences and expertise in 2011 on climate change, environmental impact assessments (EIAs), hazardous waste control, air quality monitoring, environmental education and water quality monitoring.

7.5 We also engage with officials from other parts of the country on topics of common interest. In 2011 EPD staff attended sessions on a wide range of environmental topics with our counterparts from Fujian, Beijing, Yunnan, Changchun Municipal Government, the Pan-PRD provinces and the Shanghai Institute for International Studies.



The Hong Kong Government actively promotes environmental industries. Mr Edward Yau, the then-Secretary for the Environment (second right), welcomes Mr Wu Xiaoqing, Vice-Minister of Environmental Protection (first right), to the Hong Kong Pavilion at the 12th China International Environmental Protection Exhibition and Conference (CIEPEC 2011) held in Beijing in June 2011.

Combating climate change

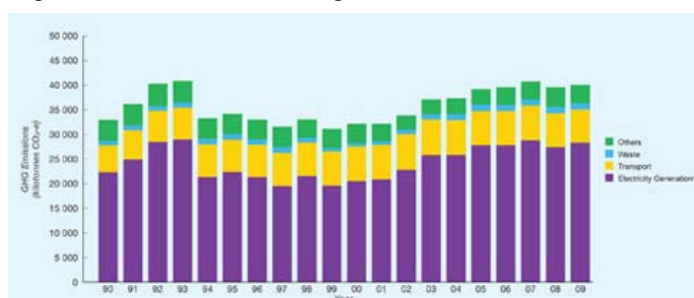
7.6 In May 2011 Hong Kong became a member of the Steering Committee of the C40 Cities Climate Leadership Group, which sets the direction of the group's work. In June, the Secretary for the Environment also attended the C40 Summit in Brazil and in December the EPD participated in the UN Climate Change Conference in South Africa as a member of the Chinese delegation.

7.7 In August 2011 we established the Hong Kong/Guangdong Joint Liaison Group on Combating Climate Change to enhance regional collaboration on controlling greenhouse gas emissions and promoting low-carbon economic development.



Representatives of the Hong Kong and Guangdong governments attend the signing ceremony for the "Co-operation Agreement between Hong Kong and Guangdong on Combating Climate Change" at the Fourteenth Plenary of the Hong Kong/Guangdong Co-operation Joint Conference held in Hong Kong.

Figure 10 – Greenhouse gas emissions 1990-2009



[ENLARGE](#)

[SEE DATA](#)

See also: [Targets - Our Progress and 2012 Aims.](#)


8. Prevention and Mitigation through Environmental Assessment

Mission:

To pre-empt environmental problems associated with development projects, plans and strategies, by assessing their environmental implications and ensuring that measures are implemented to avoid any potential problems that are identified.

Environmental Impact Assessment Ordinance

8.1 The Environmental Impact Assessment Ordinance (EIAO) is the main legal framework for ensuring designated projects undergo environmental impact assessments (EIAs). 162 EIAs have been approved since the ordinance was implemented in 1998.



Our EIAO is highly regarded internationally and our EIAO website is accessed by visitors from a range of countries. The heaviest usage comes from Hong Kong (about 300 000 hits a year), the Mainland and the United States. While fluctuating, the total number of hits has averaged 1.6 million a year over the past four years.

Strategic Environmental Assessments

8.2 Strategic Environmental Assessments (SEAs) are carried out on major planning and development proposals early in the decision-making process to identify major environmental issues and recommend prevention or mitigation measures. There were several on-going major SEA studies in 2011, including one on increasing land supply by reclamation and rock cavern development and another to review and update the Railway Development Strategy 2000.



Government policies and programmes

8.3 All bureaux and departments are required to report the environmental and sustainability implications of their policy and programme proposals when making submissions to official bodies, such as the Policy Committee, Executive Council and Legislative Council committees. In 2011, the environmental implications of more than 310 funding and policy proposals were vetted. Another 165 sustainability assessments were processed.

See also: [Targets - Our Progress and 2012 Aims.](#)



5 Social Engagement

Protecting the environment is a joint responsibility of everyone in the community. The Government works closely with a wide range of stakeholders to achieve solutions for reducing their impacts on the environment. We also seek views and a consensus from the community on major initiatives and we conduct numerous programmes to raise awareness about environmental protection and sustainable development, and to promote action among all members of the community.

1. Building Partnerships and Encouraging Compliance
2. Promoting Community Involvement
3. Consulting the Community
4. Engaging Our Staff

1. Building Partnerships and Encouraging Compliance

Partnerships

1.1 We use a partnership approach to promote compliance and good practices in industry. We have formal partnerships with four key industries – construction, property management, restaurants and vehicle repair workshops – and in 2011 we organised a number of activities with them among others:

- the “Quality Restaurant Environmental Management Scheme”, which aims to motivate the local restaurant trade to go beyond environmental compliance;
- a seminar on the new Clinical Waste Control Scheme for the property management trade which attracted 124 participants;
- a conference on “Buying Green” co-organised with the Hong Kong Construction Association, which provided impetus to green procurement in the industry;
- a workshop on minimising construction noise and the proper application of construction noise permits, which attracted more than 250 participants;
- more than 180 environmental site audits, which were conducted at construction sites and existing buildings for the Development Bureau’s Considerate Contractor Site Award Scheme and the District Councils’ Quality Building Management competitions;
- the 2011-13 Environmental Ambassadors Appointment Ceremony for the vehicle repair trade, which was organised with the Hong Kong Productivity Council and two trade associations;
- an environmental presentation to students of the Chinese catering diploma of the Hong Kong Institute of Vocational Education, to raise awareness of environmental management; and
- 39 seminars and speeches organised for more than 2 800 participants and 37 meetings held on a variety of environmental initiatives that affect industry.

1.2 We have also been working with industry organisations on carbon audit and carbon reduction, by organising training workshops, site visits, seminars and related events. In 2010 we commissioned the Chinese General Chamber of Commerce to produce the web-based Carbon Management Tool which was launched in January 2011.



Compliance assistance

1.3 The Compliance Assistance Centre (CAC) is a one-stop shop where individual operators can get information, advice and face-to-face help in applying for EPD-related licences. In 2011 the Centre handled an average 598 cases each month; it also hosted a visit by representatives of the Asia Environmental Compliance and Enforcement Network (AECEN).



The AECEN delegates exchange souvenirs with the EPD during their visit to EPD's CAC.

Corporate environmental management

1.4 The EPD promotes corporate environmental management to both public and private organisations. In 2011, we held a technical seminar on environmental management/reporting for the Hong Kong Institute of Chartered Secretaries. We have also set up a website where listed companies in Hong Kong are encouraged to share their environmental reports as an example to others. All Government bureaux and departments also have appointed Green Managers and publish annual reports of their environmental performance (see Appendix III).



Representatives of EPD and the Hong Kong Institute of Chartered Secretaries at a seminar for promoting environmental practice in business.

The screenshot shows the 'ISO 14001 環境管理體系' (ISO 14001 Environmental Management System) directory. It includes a diagram of the 'Plan-Do-Check-Act' cycle and a list of benefits such as '符合法規及標準' (Compliance with laws and standards) and '提高競爭力' (Improving competitiveness). The text mentions that the EPD has set up an on-line ISO 14001 EMS Directory where certified companies can share their feedback and advice.

The EPD has set up an on-line ISO 14001 EMS Directory, where ISO 14001-certified companies explain why they sought certification and post their feedback and advice. More than 170 organisations have responded positively to this initiative since it was launched in 1997.

See also: [Targets - Our Progress and 2012 Aims.](#)

2. Promoting Community Involvement

2.1 Many of our programmes and policies require community participation and support in order to succeed. We conduct a wide range of programmes to facilitate action and raise awareness.

Funding community initiatives

2.2 The Government supports the Environment and Conservation Fund (ECF) and the Sustainable Development Fund (SDF) that provide funding for environmental and sustainability programmes and projects initiated by green groups, schools, community groups, academics and others in the community.

2.3 The ECF provides grants to local non-profit making organisations. In 2011 it received a \$500 million injection from the Government, following a \$1 billion allocation in 2008. Major recent funding initiatives include:

- the \$450 million Buildings Energy Efficiency Funding Schemes (BEEFS), launched in 2009 to subsidise building owners to improve their energy efficiency; by the end of 2011 more than \$300 million had been granted;
- the Energy Conservation Projects for NGOs Scheme, which was also launched in 2009 and had granted funding of over \$58 million by the end of 2011;
- \$50 million earmarked in 2011 to subsidise housing estates in setting up on-site food waste recycling facilities;
- Details on other funding areas can be seen in Table 5.

Table 5 - ECF projects funded since 2008*

Project area	Number of projects	Funding (\$ million)
Environmental Research, Technology Demonstration and Conference	63	56
Environmental Education and Community Action	72	21
Minor green works in schools and NGOs e.g. installation of green roofs, renewable energy facilities and energy-saving items etc.	723	264
Community waste recovery	43	64
Food waste recycling in housing estates	11	9
Buildings Energy Efficiency Funding Schemes		309
• <u>energy-cum-carbon audits</u>	119	
• <u>energy efficiency projects</u>	672	
Energy Conservation Projects for NGOs Scheme		58
• energy improvement works	143	
• energy-cum-carbon audits	14	
• energy conservation education programmes	25	

*As at 31 December 2011

2.4 The SDF granted \$7.2 million in 2011 to seven projects that promote sustainable development concepts and practices in the community, bringing the total to \$42.4 million for 45 projects since 2003.



Solar film installation in one of the energy improvement works under the Energy Conservation Projects for NGOs Scheme.

Raising awareness

2.5 Our Combating Climate Change Campaign in 2011 included seminars, publications, talks and exhibitions to enhance awareness of climate change among different sectors of the community.

2.6 The Hong Kong Awards for Environmental Excellence attracted participation by more than 600 businesses and organisations in 2011.

2.7 We also hosted tens of thousands of visitors to our environmental resource facilities (see statistics below) and organised numerous workshops, talks, competitions and other activities.

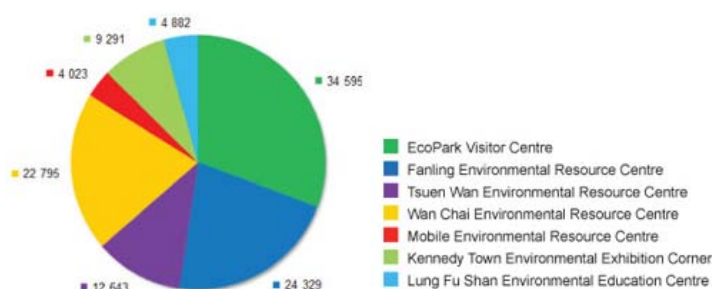


The EPD celebrated its 25th anniversary in 2011 with roving exhibitions that were held at popular shopping malls and other venues in Hong Kong, Kowloon and N.T.(top). Visitors could learn about environmental protection through themed interactive multimedia games at the exhibition booths (bottom).

Statistics of community training and awareness outreach in 2011

Environmental resource and education facilities and visitor centre:	7 facilities, more than 112 000 visitors (see breakdown in Figure 11)
Environmental awareness talks for the community:	8 sessions, 253 participants
Environmental training programme for civil servants:	20 talks, 305 participants

Figure 11 - No. of visitors to our facilities in 2011



Our facilities feature exhibitions and hands-on displays on environmental issues and we organise guided tours and educational workshops for visitors.

[SEE DATA](#)

Working with schools and youths

2.8 We continued our extensive engagement with young people on environmental issues in 2011. In 2011-12 more than 15 300 students participated in the Student Environmental Protection Ambassador Scheme. The Environmental Campaign Committee (ECC) also collaborated with the Jane Goodall Institute (Hong Kong) to launch a pilot environmental education programme in five primary schools.

2.9 The ECC also encourages schools to green their premises and management through the Hong Kong Green School Award in which 228 pre-schools and primary and secondary schools participated in 2011-12. The Waste Separation and Recycling Scheme in Schools has also attracted 1 048 participating schools.

2.10 Low-carbon living is promoted through the School Outreach Programme, which enrolled about 60 schools in 2011, and the Sustainable Development School Award Programme. Both programmes are organised by the Council for Sustainable Development.

Access to information

2.11 The interactive Environmental Protection Information Centre enables operators and members of the public to request specific environmental data and apply, pay for, and receive licences and permits electronically. We also regularly publish environmental data for public viewing on beach water quality, air quality, Pearl River Delta regional air quality, prosecutions, environmental impact assessments, solid waste arisings, and water quality in rivers, streams and marine waters.

See also: [Targets - Our Progress and 2012 Aims](#).



Students visit Nam Sang Wai (left) and a recycling plant (right) to enhance environmental awareness as part of the SEPAS training.



A representative from an award winning green school explains campus-based composting to visitors.

3. Consulting the Community

3.1 **Public engagement exercises** seek input and guidance from the community on major policy initiatives. The Council for Sustainable Development (SDC), which works closely with the ENB's Sustainable Development Division, launched a public engagement process in 2011 on "Combating Climate Change: Energy Saving and Carbon Emission Reduction in Buildings". Twenty-eight public engagement events were held, including five regional forums, and they attracted about 1 300 stakeholders to participate. About 1 700 written submissions were also received. The SDC submitted a report with recommendations to the Government in 2012.

3.2 **Public consultations** are organised to seek feedback on specific proposals that have wider implications across society. In 2011 we held public consultations on extending the environmental levy scheme on plastic shopping bags to cover all retail outlets and on a proposal to restrict the sale of energy-inefficient incandescent light bulbs.

3.3 **Targeted consultations** are held with stakeholders who are directly affected by new proposals. In 2011 we consulted the transport trade on our proposal to tighten emission standards for newly-registered vehicles from Euro IV to Euro V, as well as the relevant stakeholders on our proposal to introduce statutory emission standards for non-road vehicles and mobile machinery. Under the continuous public involvement approach, we also continued to engage with local communities in relation to the Integrated Waste Management Facilities and landfill extension projects, including meeting with the concerned district councils and rural committees, representatives of potential sensitive receivers and other key stakeholders.



Dr Kitty Poon, the then-Under Secretary for the Environment(centre), and representatives from bureaux/departments at the public forum for the Regional Cooperation Plan on Building a Quality Living Area.

3.4 A **regional public consultation** was organised jointly by the Hong Kong, Guangdong and Macao governments over three months in 2011 on initial proposals for the Regional Cooperation Plan on Building a Quality Living Area.

3.5 **Regular meetings:** We also meet regularly with the Legislative Council and the Advisory Council on the Environment for formal discussions on our policies and programmes.

4. Engaging Our Staff

4.1 Our staff are central to the success of our work. We devote significant efforts to engaging them on work-related matters and we provide training, safety and health protection and awareness-raising to help them develop professionally and personally.

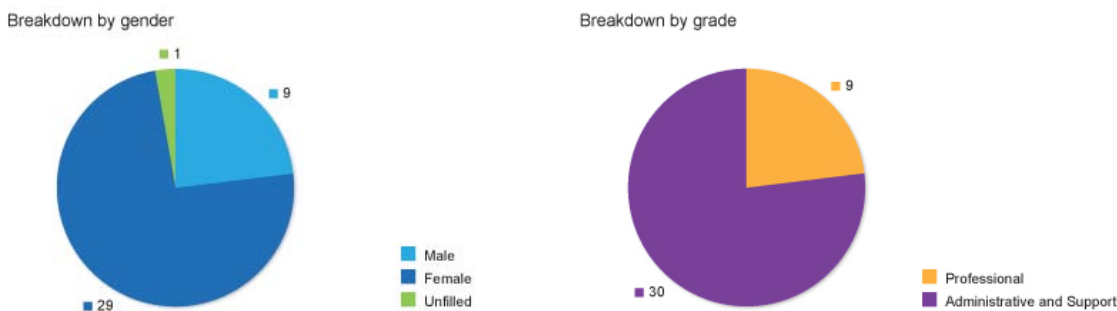
Staff profile

4.2 The latest breakdown of staff by gender and position is shown below.

Figure 12 - Staff by gender and grade (as at 31 December 2011)

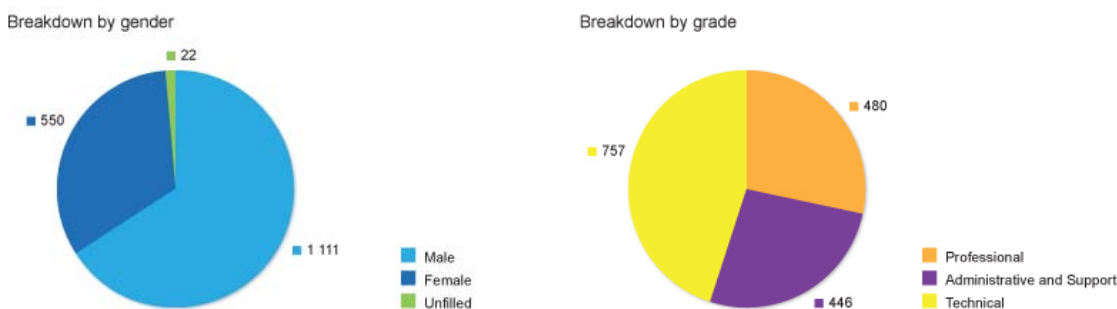
Environment Bureau

Establishment: 39



Environmental Protection Department

Establishment: 1 683



Communications with staff

4.3 Good communications with staff can enhance understanding and co-operation on work-related matters and enable staff to raise issues of concern. The Departmental Consultative Committee comprises staff and management representatives and meets every three months. Committee members also sit on the Departmental Environment, Safety and Health Committee (DESHC).

Safety and health

4.4 The EPD implements a full safety management system. Safety representatives designated in each of our administrative and functional groups carry out internal safety and health inspections annually.

4.5 We provide training in safety and health and in 2011 we held over 80 classes for more than 310 participants. Safety reminders and tips are also conveyed daily to all staff through our intranet system.

4.6 In 2011 we had 1.8 occupational injuries per 1 000 employees, which were mainly the result of slipping, tripping / falling, lifting / carrying objects, or striking against objects.

Training and development

4.7 In 2011 our staff received an average 3.2 days of training (see Table 5). We offered 22 in-house workshops to about 900 staff on such topics as complaint handling, integrity, enforcement and prosecution techniques. We also sent 28 young professional and inspectorate staff to Jinan University in Guangzhou to learn about the Mainland's administrative, legal and civil service systems, national planning and environmental management. Another 94 staff attended Investigation Skills Training organised by the Civil Service Bureau to strengthen their skills in evidence collection and prosecution.

4.8 The EPD also contributes to the development of the engineering profession through the Environmental Graduate Training Scheme. Some 53 environmental engineering graduates have received on-the-job training with us.

Table 5 - Staff training in 2011

Grade of staff	Average number of training days
Senior Management	1.9
Professionals	4.4
Inspectorates	4.2
Other staff	0.5
Average per staff member	3.2

Note: Calculation based on both civil servant and non-civil servant staff.



EPD new recruits visit an industrial plant to learn about environmental impacts, as part of their induction programme.

Staff awareness

4.9 Each year we organise activities for staff and their families to improve their environmental knowledge and reach out to the community. We also hold staff social events to build team spirit and encourage networking. Activities in 2011 included:

- Hong Kong Reef Check;
- Green Power Hike;
- the 35th Mount Butler Heritage Race;
- the Challenging 12 Hours Charity Marathon organised by Sowers Action;
- Community Chest events, including "Skip Lunch Day", "Green Day", "Dress Special Day" and "Love Teeth Day";
- community service, such as a rice sale and toy donations run by charitable organisations.



EPD staff and their families on a tour to Mainland China.



Mr C W Tse, Assistant Director of Environmental Protection (middle row, 9th from right), attends a staff basketball tournament and presents prizes to the winners. The EPD also holds a ceremony each year to celebrate staff achievements in sports and activities and recognise long service of 20 years.



EPD staff participate in the 35th Mount Butler Heritage Race.

See also: [Targets - Our Progress and 2012 Aims.](#)



6 Our Economic Impacts

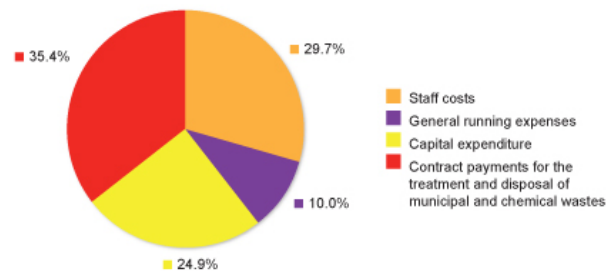
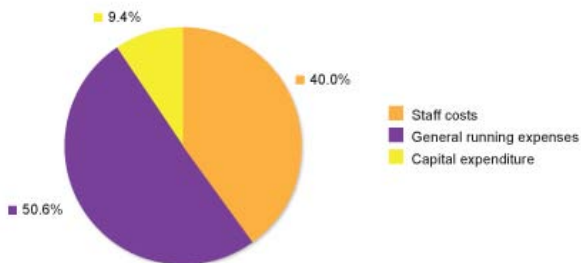
1. Investment in Sustainability

1.1 The Government invests billions of dollars in public funds each year to improve Hong Kong's environment for the long term. In 2011 the Environment Bureau (ENB) and Environmental Protection Department (EPD) had a total departmental expenditure of more than \$2.9 billion, excluding investments in major infrastructure.

ENB and EPD expenditure in 2011

ENB total expenditure: \$72 million

EPD total expenditure: \$2.910 billion
(excluding major infrastructure projects)



2. Economic Impacts of Our Policies and Programmes

2.1 We subscribe to the polluter pays principles, in which polluters contribute to the cost of cleaning up and preventing pollution. We also use financial tools to discourage unsustainable practices and promote greener technologies and practices.

Polluter pays initiatives

2.2 In 2011 we implemented a Clinical Waste Control Scheme in which users pay \$2.7 per kilogramme to have their waste treated at the Chemical Waste Treatment Centre. We also consulted the public on extending the 50-cent environmental levy scheme on plastic shopping bags to cover all retailers, and made preparations to consult the public in 2012 on charging for the disposal of municipal solid waste.



A clinical waste disposal charge has been introduced to cover the cost of treating the waste at the Chemical Waste Treatment Centre.

Financial incentives

2.3 The \$300 million Pilot Green Transport Fund was launched in 2011 to provide subsidies to the public transport sector and goods vehicle owners to test out green and innovative technologies. We also earmarked \$150 million to help LPG taxi and light-bus owners replace the catalytic converters in their vehicles. These provisions are in addition to a \$540 million incentive programme running from 2010-13 to help vehicle operators switch away from Euro II diesel commercial vehicles to ones that comply with current emission standards. The Government also offers tax concessions on the purchase of environment-friendly vehicles.

2.4 \$50 million was earmarked by the Environment and Conservation Fund (ECF) in 2011 to help housing estates set up on-site food waste treatment facilities and organise food waste reduction promotional activities. Building owners also receive ECF support to conduct energy-cum-carbon audits and undertake energy efficiency projects.

2.5 The Government has committed \$93 million to the Cleaner Production Partnership Programme, which was launched with Guangdong in 2008 to support Hong Kong-owned factories in the Pearl River Delta region in promoting cleaner production technologies and practices. By the end of 2011, more than 1 700 funding applications had been approved.



A brand new catalytic converter (left) and a used catalytic converter with deposits from vehicle engine exhaust (right).



Promotional materials for food waste recycling projects in housing estates.



7 Targets – Our Progress and 2012 Aims

We set long-term objectives and short-term targets in each area of our work to help us measure our progress and ensure we stay on track towards our ultimate goal of a healthier, more sustainable environment. The areas are:

1. Better Air Quality
2. Better Water Quality
3. Environmentally Sound Waste Management
4. Greener Energy Management
5. Nature Conservation
6. Quieter Environment
7. Cross-boundary and International Co-operation
8. Prevention and Mitigation through Environmental Impact Assessment
9. Sustainable Development
10. Building Partnerships and Encouraging Compliance
11. Promoting Community Involvement
12. Internal Operations
13. Our Staff

1. Better Air Quality

Long term objective (1): Reduce local air pollution.		
2011 Targets	Progress in 2011	2012 Targets
i. Map out the way forward for reducing emissions from ferries.	Achieved. We have drafted a control strategy for reducing emissions from local ferries and ocean going vessels that includes upgrading the fuel standard for local marine fuel supply and collaborating with PRD governments to control emissions from ocean-going vessels (OGVs) at berth and set up an emission control area in the longer term.	i. Review the Second Technical Memorandum for scope to further tighten the emission caps of the power sector. ii. Encourage OGVs to switch to cleaner fuels when berthing by offering a 50% concession for port facilities and light dues. iii. Tighten the vehicle exhaust emission standards for newly registered vehicles, from Euro IV to Euro V levels.
ii. Map out a scheme for controlling emissions from non-road mobile sources.	Achieved. A legislative control scheme has been drafted that requires non-road mobile machinery that is sold or leased for local use to meet statutory emission standards.	

Long term objective (2): Review Hong Kong's Air Quality Objectives and develop a long-term air quality management strategy.		
2011 Targets	Progress in 2011	2012 Targets
i. Finalise the proposed new Air Quality Objectives (AQOs) and the long-term air quality management strategy.	Working toward target. To attain the proposed new AQOs, a host of air quality improvement measures is needed that encompasses a wide range of issues and cuts across a number of policy areas. As many of these measures are controversial and complicated, we need more time to map out the best way to take them forward. In parallel, we are already pursuing those measures likely to be supported by the community including the Legislative Council.	i. Submit the final set of new AQOs and a date for the new AQOs to take effect to the Legislative Council in early 2012.
ii. Submit the final set of recommendations for consideration to the Legislative Council.		ii. Take forward legislative amendments that are necessary for effecting the new AQOs.

2. Better Water Quality

Long term objective: Implement HATS Stage 2 to improve the harbour's water quality and sustain the improvement in the long term.		
2011 Targets	Progress in 2011	2012 Targets
i. Complete the technical evaluation of biological treatment methods suitable for HATS Stage 2B.	Achieved. The technical evaluation was completed in December 2011.	i. Set out the way forward for the implementation of HATS Stage 2B.
ii. Complete the statutory procedures to rezone a piece of land on Stonecutters Island for the biological treatment plant under HATS Stage 2B.	Achieved. The statutory procedures under the Town Planning Ordinance (Cap. 131) were completed in September 2011 to rezone a piece of land for the underground biological treatment plant under HATS Stage 2B.	

3. Environmentally Sound Waste Management

Long term objective: Promote waste reduction and recycling, and develop integrated waste management facilities to reduce the environmental burden and landfill space requirement arising from waste disposal.		
2011 Targets	Progress in 2011	2012 Targets
i. Consult the public and the ACE on the EIA result for Integrated Waste Management Facilities (IWMF) Phase 1.	Achieved. The EIA Report for the IWMF Phase 1 was submitted in accordance with the EIAO in October 2011 and endorsed by the ACE in December 2011.	i. Initiate funding application for the development of IWMF Phase 1. ii. Invite tenders for the follow-on operation contracts of the Island West and West Kowloon refuse transfer stations and Outlying Islands refuse transfer facilities. iii. Expand the Community Recycling Network: 35 community recycling points to be set up at the premises of non-governmental organisations (NGOs); 16 community recycling centres to be set up by NGOs in 12 districts; and 1 500 visits to be made by community recycling promotion vehicles to housing estates and public locations.
ii. Invite tenders for the follow-on operation contracts for the Island West and West Kowloon refuse transfer stations.	Programme revised. As more time was required to adjust and finalise the tender requirements for the Island West and West Kowloon refuse transfer stations, tender invitation had been rescheduled to 2012.	
iii. Commission a consultancy study on procurement of the SENT Landfill Extension contract.	Working toward target. It took longer than expected to finalise the contract strategy and obtain approval for the project. The programme for commissioning the consultancy study is being adjusted.	

<p>iv. Expand the programme on Source Separation of Waste and operate waste recycling activities at suitable public locations to facilitate the collection of recyclables from the community with a view to instilling behavioural change.</p>	<p>Achieved. A Community Recycling Network was established to further enhance waste reduction and recycling throughout the territory.</p>	<p>iv. Commission a consultancy study for the development of a WEEE treatment and recycling facility under the proposed mandatory PRS for WEEE.</p>
<p>v. Engage with the relevant trades on details of a mandatory producer responsibility scheme (PRS) for waste electrical and electronic equipment (WEEE).</p>	<p>Achieved. Engagement with the relevant trades to finalise the detailed implementation plan has been progressing as planned. Meetings were held with the trade associations and WEEE recyclers in the fourth quarter of 2011 to discuss the implementation details of the PRS for WEEE.</p>	<p>v. Draw up a way forward on waste charging taking into account the result of the public consultation launched in January 2012.</p>
<p>vi. Consult the public on the extension of the Environmental Levy Scheme on Plastic Shopping Bags.</p>	<p>Achieved. Completed a three-month consultation on the Extension of the Environmental Levy Scheme on Plastic Shopping Bags in 2011. We are proceeding with the necessary preparation for putting the extension into practice as soon as practicable.</p>	
<p>vii. Engage the public in continued discussions on possible options to introduce municipal solid waste charging in Hong Kong.</p>	<p>Achieved. Completed preparations for the formal launch of a public consultation on 10 January 2012.</p>	

4. Greener Energy Management

Long term objective:	Formulate policies and implement measures to promote energy efficiency and conservation, and the development of renewable energy in Hong Kong.	
2011 Targets	Progress in 2011	2012 Targets
i. Fully implement the second phase of the Mandatory Energy Efficiency Labelling Scheme in September 2011.	Achieved. The second phase of the scheme has been fully implemented since September 2011. With the addition of washing machines and dehumidifiers, the scheme now covers five types of electrical appliances.	i. Prepare for the full implementation of the Buildings Energy Efficiency Ordinance.

5. Nature Conservation

Long term objective:	Formulate policies and implement measures to regulate, protect and manage natural resources that are important for the conservation of the biological diversity of Hong Kong.	
2011 Targets	Progress in 2011	2012 Targets
i. Continue implementing the New Nature Conservation Policy, in particular the Management Agreement and Public-Private Partnership - Pilot Scheme.	Achieved. The Management Agreement (MA) projects continued to run with ECF's funding approval. Three projects are being carried out at four of the 12 MA priority sites: at the Long Valley and Ho Sheung Heung Priority Sites, run by the Conservancy Association (CA) and the Hong Kong Bird Watching Society (HKBWS); the Fung Yuen Priority Site, run by the Tai Po Environmental Association (TPEA); and the Ramsar Site and Deep Bay Wetlands outside Ramsar Site Priority Sites, run by the HKBWS. For the Public-Private Partnership - Pilot Scheme, in view of an earlier judicial review of the EIAO, the project proponent for Sha Lo Tung withdrew their EIA report on 15 May 2011. The project proponent has resubmitted the EIA report to EPD on 5 April 2012.	i. Continue implementing the New Nature Conservation Policy, in particular the Management Agreement and Public-Private Partnership - Pilot Scheme. ii. Oversee the implementation of measures to better protect country park enclaves.
ii. Oversee the implementation of measures to better protect country park enclaves.	Achieved. There are currently 77 country park enclaves, of which 23 are already covered by Outline Zoning Plans (OZPs) under the Town Planning Ordinance (TPO) (Cap. 131). Since August 2010, 19 of the remaining 54 enclaves have been covered by draft Development Permission Area (DPA) plans gazetted under the TPO. Actions to protect the remaining 35 enclaves in accordance with the TPO or the Country Parks Ordinance will be pursued. In June 2011, the ECF Committee supported the extension of the MA Scheme to cover Country Park enclaves as well as private land within Country Parks in order to further enhance the conservation of Country Parks.	

6. Quieter Environment

Long term objective:		Reduce and minimise road traffic noise through implementation of noise abatement measures.			
2011 Targets		Progress in 2011		2012 Targets	
i. Further develop and continue implementation of the proposed noise mitigation measures.		Achieved. We continued to explore new low-noise road surface materials.		i. Continue implementation of noise barrier retrofitting work under the Public Works Programme and a trial of low noise resurfacing work on local road sections. (Measured in terms of progress in the programme, including road sections where works have commenced).	
ii. Continue developing and implementing noise mitigation measures, including noise barrier retrofitting work under the Public Works Programme and trials of low noise road surfaces.		Achieved. Work to install noise barriers continued on eight sections. Four more road sections were re-surfaced.			

7. Cross-boundary and International Co-operation

Long term objective: Contribute to regional and global efforts to improve the quality of the living environment.	
2011 Targets	Progress in 2011
<p>i. Formulate measures for combating climate change in light of the outcome of the public consultation on Hong Kong's Climate Change Strategy and Action Agenda.</p>	<p>Achieved. Actions have already been set in train to reduce Hong Kong's greenhouse gas emissions, in particular by raising building energy efficiency, exploring the potential of renewable energy, and developing an efficient and environment-friendly public transportation system.</p>
<p>ii. Continue implementing the Cleaner Production Partnership Programme (measured by number of participants at awareness promotion activities and number of funding applications approved).</p>	<p>Achieved. 249 awareness promotion activities have been organised for over 23 600 participants since the programme began in April 2008. Over the same period, 1 708 funding applications were approved for Hong Kong-owned factories to conduct on-site assessments, demonstration and verification projects.</p>
<p>iii. Continue the joint study with Guangdong on the post-2010 arrangement for air pollutant emission reduction in the Pearl River Delta region on the assessment of the delivery of the 2010 emission reduction targets (measured in term of progress).</p>	<p>Achieved. The joint study and assessment are being progressively undertaken by the two sides.</p>

8. Prevention and Mitigation through Environmental Impact Assessment

Long term objective (1): Promote Strategic Environmental Assessment (SEA) to the public locally and internationally by providing easy access to the SEA Manual and related information.		
2011 Targets	Progress in 2011	2012 Targets
i. Disseminate information and knowledge about SEA through the web-based SEA Knowledge Centre.	Achieved. Approximately 483 600 visits to the web-based SEA Knowledge Centre were recorded.	i. Add the latest local/overseas SEA references and/or other relevant materials to the web-based SEA Knowledge Centre.

Long term objective (2): Help the public to understand Environmental Impact Assessment (EIA) findings.		
2011 Targets	Progress in 2011	2012 Targets
i. Maintain efficient operation of the EIAO Website for the public to access project profiles and EIA reports under public inspection; EIAO applications and other decisions; EIA guidance materials; and other EIA information.	Achieved. Project profiles and EIA reports were made available on the EIAO Website in a timely manner to tie in with the EIAO provision on public inspection. The EIAO Website also provided the public with user-friendly and transparent access to the full range of statutory applications and decisions by the Director of Environmental Protection under the EIAO.	i. To consult stakeholders on the development of new and/or updated guidelines for enhancing the EIA process and its transparency.

9. Sustainable Development

Long term objective: Promote sustainable development (SD) in Hong Kong.		
2011 Targets	Progress in 2011	2012 Targets
i. The Council for Sustainable Development will launch a public engagement process on "Combating Climate Change: Energy Saving and Carbon Emission Reduction in Buildings".	Achieved. The public engagement exercise was launched in August 2011.	i. The Council for Sustainable Development will submit a report on the public engagement exercise on "Combating Climate Change: Energy Saving and Carbon Emission Reduction in Buildings" to the Government.

10. Building Partnerships and Encouraging Compliance

Long term objective (1): Enhance environmental awareness among the regulated trades and industries, and reinforce our partnership programmes for the restaurant trade and the vehicle repair workshops trade.		
2011 Targets	Progress in 2011	2012 Targets
<p>i. Revamp the electronic version of the Environmental Guide for Smart Business.</p> <p>ii. Appoint Environmental Ambassadors under the Vehicle Repair Trade Partnership Programme.</p>	<p>Achieved. The graphical and PDF versions were revamped.</p> <p>Achieved. A ceremony to mark the appointment of the 2011-2013 Environmental Ambassadors of the Vehicle Repair trade was attended by some 155 vehicle repair trade practitioners and stakeholders.</p>	<p>i. Hold an environmental seminar for the Vehicle Repair Trade to enhance their environmental awareness and performance.</p> <p>ii. Organise a seminar for temple operators to improve their environmental performance in the burning of joss paper.</p> <p>iii. Publish guidelines for controlling air pollution due to the burning of joss paper at Chinese temples, crematoria and similar places.</p>

Long term objective (2): Enhance the environmental competency of the construction industry and the property management sector.		
2011 Targets	Progress in 2011	2012 Targets
<p>i. Organise promotional events such as seminars and award schemes to enhance the environmental competency of practitioners in the construction trade.</p> <p>ii. Publish promotional materials and organise promotional events, such as seminars and audits, to enhance the environmental compliance of practitioners in the property management trade.</p>	<p>Achieved. 13 seminars were organised for the construction trade in 2011. EPD also co-organised the Considerate Contractors Site Award Scheme with the Development Bureau and the Hong Kong Construction Environmental Awards with the Hong Kong Construction Association.</p> <p>Achieved. Seven seminars were organised for the property management trade and 91 environmental audits were conducted for residential, commercial and industrial premises in 2011.</p>	<p>i. Continue to organise promotional events such as seminars and award schemes to enhance the environmental competency of practitioners in the construction trade.</p> <p>ii. Continue to organise promotional events such as seminars and environmental audits to enhance environmental compliance of practitioners in the property management trade.</p>

11. Promoting Community Involvement

Long term objective: Encourage the public to switch to a greener lifestyle.		
2011 Targets	Progress in 2011	2012 Targets
i. Continue to promote Government initiatives on environmental protection.	<p>Achieved.</p> <p>A total of 17 exhibitions / video broadcasting sessions were organised at shopping malls and estates to promote waste separation at source, attracting 7 000 participants.</p> <p>The message on combating climate change and adopting a low carbon lifestyle was promoted through four public seminars; a Climate Change Teacher Professional Development Programme (in which 52 schools participated); as well as 61 talks and 27 roving exhibitions organised at schools.</p>	<p>i. Promote Government initiatives on environmental protection.</p> <p>ii. Enhance public involvement and participation in environmental protection.</p>
ii. Continue to enhance public involvement and participation in environmental protection.	<p>Achieved.</p> <p>Numerous on-going programmes such as competitions, award schemes and guided tours were continued in 2011 with the participation of tens of thousands of people and hundreds of organisations.</p>	

12. Internal Operations

Long term objective (1):		Pursue continual improvement in the environmental performance of our internal operations by implementing an effective management system.	
2011 Targets	Progress in 2011	2012 Targets	
i. Continue to monitor the potentially significant environmental aspects of our internal activities.	Achieved.	i. Continue to monitor the potentially significant environmental aspects of our internal activities.	
ii. Continue to identify and implement energy / emissions reduction measures through the Energy and Emissions Management Team (EEMT).	Achieved. The EEMT, formed in 2007, has identified and implemented energy / emissions reduction measures, and monitored implementation of these measures.	ii. Continue to identify and implement energy / emissions reduction measures through the EEMT.	

Long term objective (2):		Demonstrate efficiency and commitment to environmental conservation by reducing expenditure and resources consumption.	
2011 Targets	Progress in 2011	2012 Targets	
i. Continue paper saving initiatives to keep paper consumption to a minimum.	Achieved. Photocopying paper consumption fell by 2.2 per cent over 2010.	i. Continue paper saving initiatives to keep paper consumption to a minimum.	
ii. Continue energy saving measures in conjunction with the energy audit.	Target exceeded. Electricity consumption in 2011 was reduced by 1.7 per cent over 2010, exceeding the consumption reduction target of 1 per cent for the year.	ii. Continue energy saving measures and monitor electricity consumption.	
iii. Monitor consumption and encourage recycling.	Achieved. Reduced consumption of printer ink/toner cartridges.	iii. Monitor consumption and encourage recycling.	
iv. Continue Indoor Air Quality certification work and arrange renewal as necessary.	Achieved.	iv. Continue Indoor Air Quality certification work and arrange renewal as necessary.	

Long term objective (3): Ensure treatment and disposal of wastes at our facilities are managed in the most environmentally acceptable manner.

2011 Targets	Progress in 2011	2012 Targets
i. Continue close supervision of our waste facilities contractors, aiming at full compliance with both legal and contractual environmental requirements.	Achieved. EPD's waste facilities met all legal environmental performance requirements in 2011. Some 121 713 environmental monitoring measurements were carried out at the facilities, which included strategic landfills, restored landfills, the Chemical Waste Treatment Centre and refuse transfer stations, and 121 698 of these complied with contractual requirements.	i. Continue close supervision of our waste facilities contractors, aiming at full compliance with both legal and contractual environmental requirements.

13. Our Staff

Long term objective: Promote staff environmental awareness and encourage participation.

2011 Targets	Progress in 2011	2012 Targets
i. Continue encouraging staff to attend training sessions / seminars and awareness campaigns.	Achieved. 355 staff attended 8 training sessions on various green management topics.	i. Continue encouraging staff to attend training sessions / seminars and awareness campaigns.



Appendix I Environmental and Energy 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, and pursues sustainable development; and
- in which the community enjoys a reliable and safe energy supply at reasonable prices, while improving energy efficiency, promoting energy conservation and minimising the environmental impacts from the production and use of energy.

To realise our vision, we will continue to strengthen our ability to meet environmental sustainability goals. We will formulate policies 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 policies, services and programmes offered by the Environment Bureau (ENB) and the Environmental Protection Department (EPD), as well as our own internal operations, are developed and conducted in an environmentally responsible manner.

To realise our vision on the energy side, we will continue to monitor the operations of the two power companies and the town gas supply company through the established monitoring arrangements. We will strive to achieve energy efficiency and conservation through public education, promotion, legislation and implementation of various programmes. We will also promote competition and transparency in the local fuel market.

In pursuance of these goals, the ENB and EPD have 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, conservation and energy-related issues. We will facilitate businesses to comply with environmental legislation through educational and promotional programmes, and encourage our business partners to further enhance their performance by adopting green practices with a view to going beyond compliance.

We will seek to provide moral leadership by not only complying with the letter of the law, but the spirit of all applicable legislation, standards and regulations, as well as our internal guidelines and procedures, in all our operations within the ENB and 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. We will help to reduce air emissions by implementing plans and measures that are relevant to our operations to meet the commitments of the Clean Air Charter.

Adequate infrastructure for waste treatment

We will provide first-class physical infrastructure for the treatment and disposal of waste and wastewater in line with international best practice.

Response to environmental incidents

We will implement an emergency response system for handling environmental incidents and we will work closely with other Government departments in responding 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, Recycle and Responsibility in the consumption of materials and seek continual improvement in the efficient use of natural resources and energy in all our operations.

Energy supply and efficiency

We will continue to oversee the reliability of power supply and monitor the performance of the power companies. We will also actively promote energy efficiency and energy saving in the planning, design, production, use and maintenance of products, buildings and services. We aim to integrate energy conservation and efficiency considerations into policies, strategies, plans, programmes, implementation and operations in both the public and private sectors. We will actively promote partnership and community support, facilitate suitable research and development, and raise the awareness of the community on energy efficiency and conservation matters.

Sustainable development

We will actively promote and 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 and partnership

We aim to promote community awareness of the environment, energy and sustainable development through campaigns, publicity, education and action programmes. We strive to partner with all relevant stakeholders in promotion and public education activities, with a view to harnessing the community's support for, and contribution to, achieving our desired goals for the environment, energy efficiency and sustainable development.

We will also publicise to the community our policies on the environment, energy and sustainable development and report annually on our performance. We will ensure that all our staff are aware of our policies and that they are able to provide detailed information about our policies and initiatives to stakeholders in their particular areas of concern.

Training

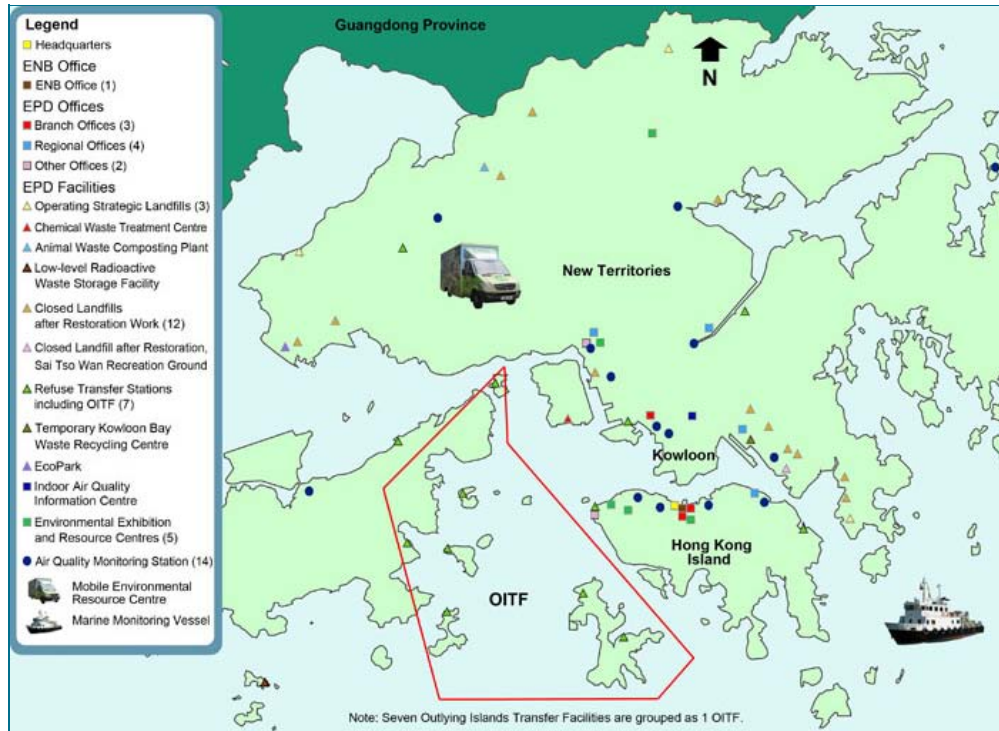
We will ensure through appropriate training and professional development, that every member of our staff has the knowledge and competency to assume his/her responsibilities and to participate constructively in relevant activities.

Management review

The Management will review this policy as well as our objectives and targets on the environment, energy and sustainable development, with regard to changing internal and external factors, and seek continual improvement in our performance.



Appendix II ENB / EPD Offices and Facilities



Photos of some offices and facilities:



ENB / EPD headquarters
offices at the Central
Government Offices



Revenue Tower Office



Indoor Air Quality
Information Centre



Regional Office (North)



Customer Service Centre



Sai Tso Wan Recreation
Ground - Visitor Center



Mobile Environmental Resource Centre



Marine Monitoring Vessel



Roadside Air Monitoring Station at Central



West New Territories Landfill



North East New Territories Landfill



South East New Territories Landfill



Kowloon Bay Waste Recycling Centre



Island West Transfer Station



Chemical Waste Treatment Centre, Tsing Yi



Appendix III Environmental Performance Reports of Government Bureaux/Departments and Agencies

Reference can be made to environmental performance reports of government bureaux/departments and agencies through the hyperlink below:

http://www.epd.gov.hk/epd/english/how_help/tools_epr/collect_1.html



Feedback

To facilitate us to improve the future editions, we welcome your valuable feedback. You may complete the online [Feedback Form](#), and send it to us by pressing its "Submit" button. Alternatively, you may email your comments to: epr@epd.gov.hk. Thank you!

Enlarged Images and Data

3 Environmental Impacts of Our Operations

ENB / EPD Offices Certified Under the Indoor Air Quality Certification Scheme

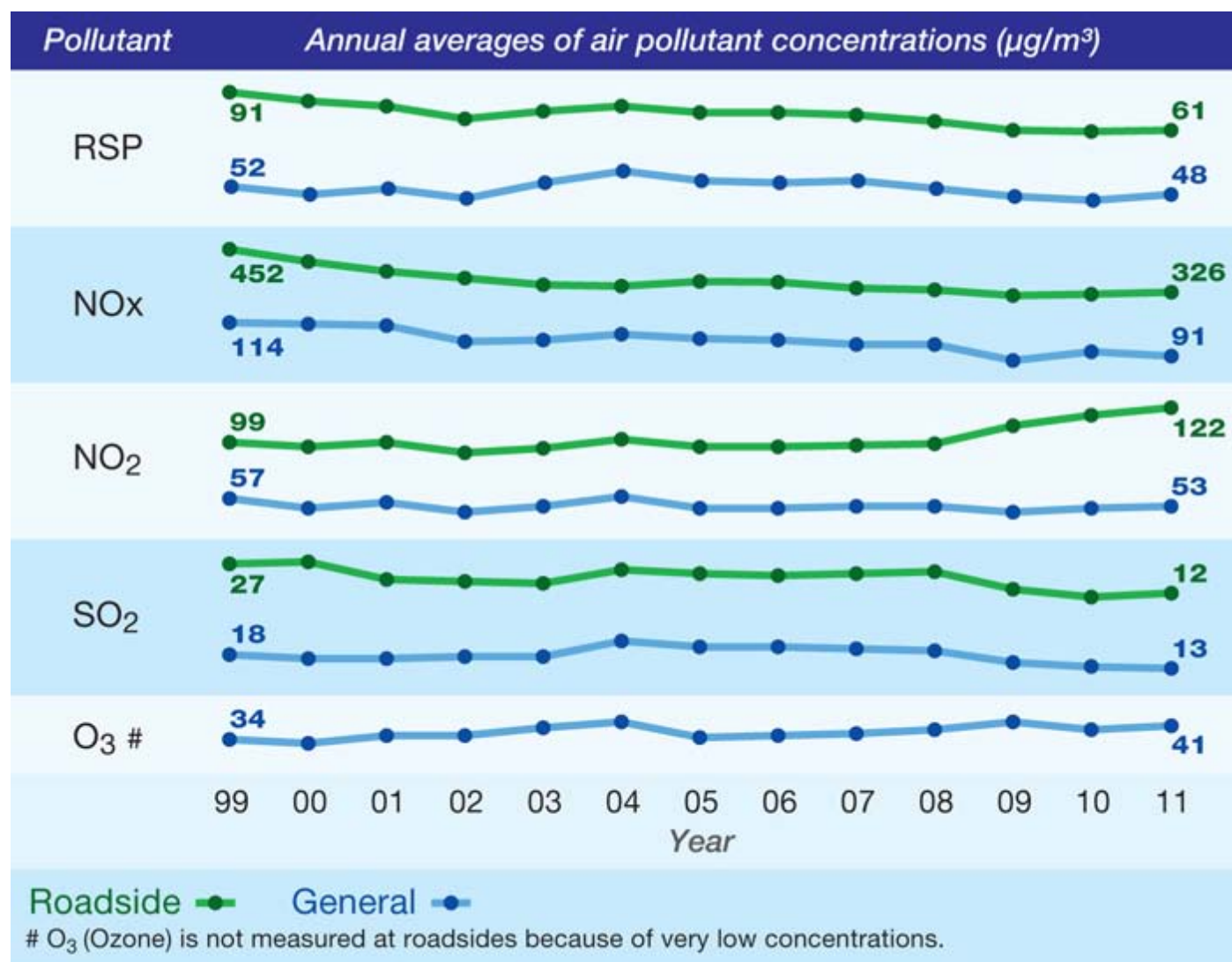
ENB / EPD Offices	IAQ Class Awarded
1. IAQ Information Centre	Excellent
2. Offices in Southorn Centre	Good
3. Offices in Revenue Tower	Good
4. Wan Chai Environmental Resource Centre	Good
5. Offices in Tsuen Wan Government Offices	Good
6. IWTS Administration Building	Good
7. Offices in Shatin Government Offices	Good
8. Chemical Waste Treatment Centre office	Good
9. Fanling Environmental Resource Centre	Good
10. Offices in Chinachem Exchange Square	Good
11. Offices in Cheung Sha Wan Government Offices	Good
12. Offices in Chinachem Tsuen Wan Plaza	Good
13. Offices in Nan Fung Commercial Centre	Good
14. Office in Murray Building	Good
15. Kennedy Town Environmental Exhibition Centre	Good
16. Office in Hoepwell Center	Good

[BACK](#)

4 Improving Hong Kong's Environment

1. Better Air Quality

Figure 1 – Air quality trends in Hong Kong 1999-2011



[BACK](#)

Figure 1 – Air quality trends in Hong Kong 1999-2011

Year	Annual averages of air pollutant concentrations ($\mu\text{g}/\text{m}^3$)								
	RSP		NO_x		NO_2		SO_2		O_3 (Ozone)#
	General	Roadside	General	Roadside	General	Roadside	General	Roadside	General
1999	52	91	114	452	57	99	18	27	34
2000	48	84	113	415	52	96	16	28	32
2001	51	80	112	386	55	99	16	19	36
2002	46	70	101	366	50	92	17	18	36
2003	54	76	102	346	53	95	17	17	40
2004	60	80	106	342	58	101	25	24	43
2005	55	75	103	356	52	96	22	22	35
2006	54	75	102	354	52	96	22	21	36
2007	55	73	99	336	53	97	21	22	37
2008	51	68	99	331	53	98	20	23	39
2009	47	61	88	314	50	110	14	14	43
2010	45	60	94	318	52	117	12	10	39
2011	48	61	91	326	53	122	13	12	41

O_3 (Ozone) is not measured at roadsides because of very low concentrations.

[BACK](#)

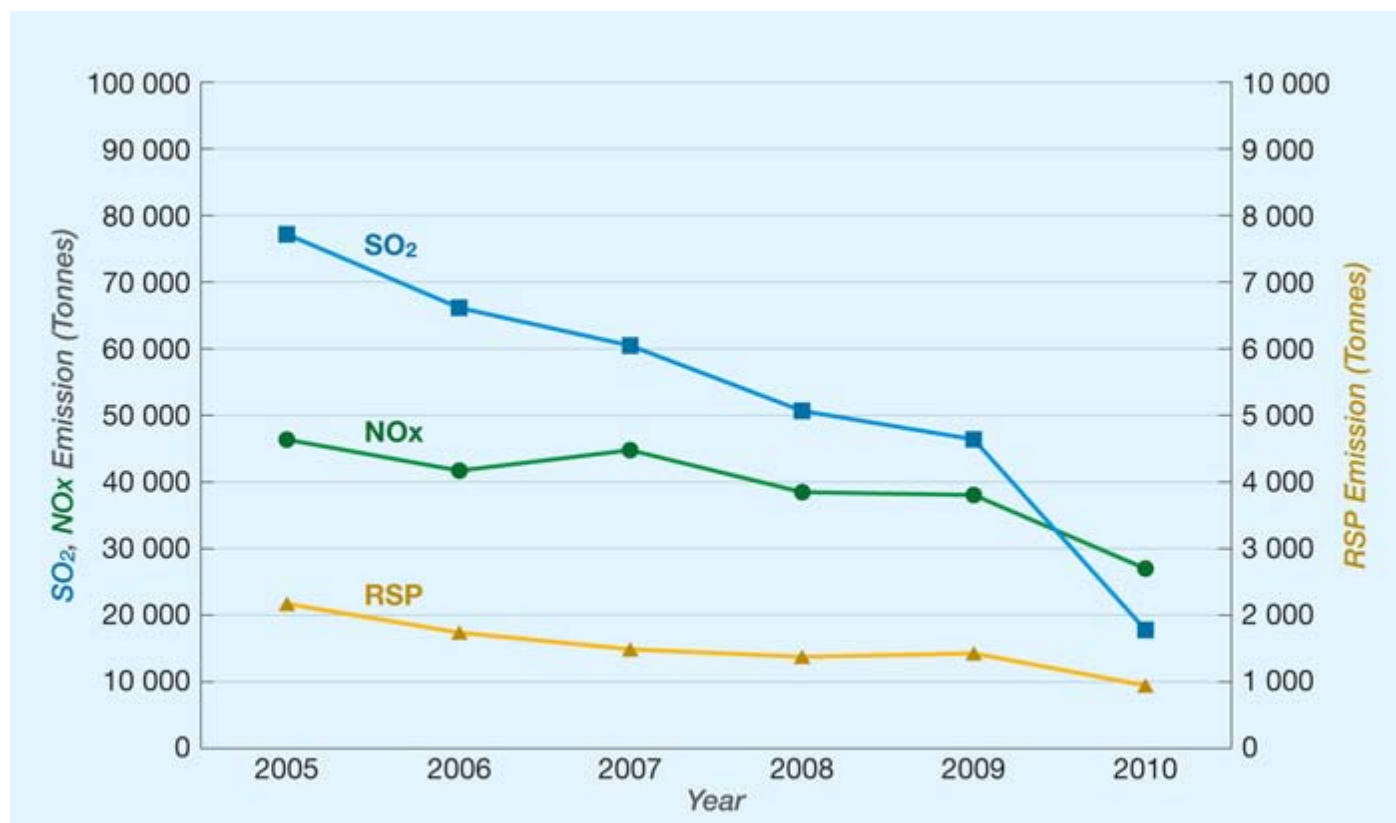
Table 3 - Compliance status of long-term (annual) Air Quality Objectives in 2011

Station		NO ₂ 1-year	TSP 1-year	RSP 1-year	SO ₂ 1-year	Lead 3-months
General Station	Central/Western	✓	✓	✓	✓	✓
	Eastern	✓	--	✓	✓	--
	Kwai Chung	✓	✓	✓	✓	✓
	Kwun Tong	✓	✓	✓	✓	✓
	Sham Shui Po	✓	✓	✓	✓	--
	Tsuen Wan	✓	✓	✓	✓	✓
	Sha Tin	✓	✓	✓	✓	--
	Tai Po	✓	✓	✓	✓	--
	Tung Chung	✓	✓	✓	✓	✓
	Yuen Long	✓	*	✓	✓	✓
	Tap Mun	✓	--	✓	✓	--
Roadside Station	Causeway Bay	*	--	*	✓	--
	Central	*	--	*	✓	--
	Mong Kok	*	*	✓	✓	✓

Notes : "✓" Complied with AQO "*" Violated the AQO "--" Not Measured

[BACK](#)

Figure 2 - Emissions from the Power Sector 2005-2010



[BACK](#)

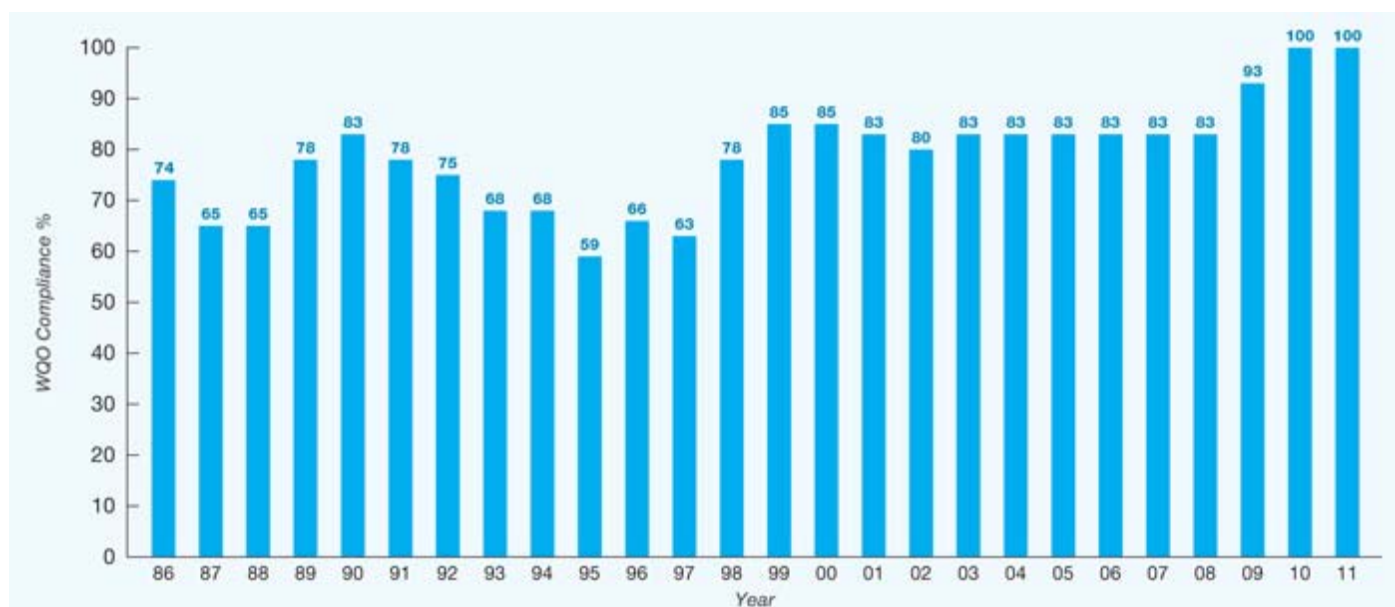
Figure 2 - Emissions from the Power Sector 2005-2010

Emission (tonnes)	2005	2006	2007	2008	2009	2010
NO _x	46 434	41 766	44 849	38 528	38 104	27 038
SO ₂	77 058	66 034	60 370	50 582	46 311	17 770
RSP	2 324	1 863	1 599	1 480	1 530	1 011

[BACK](#)

2. Better Water Quality

Figure 3 - WQO compliance in beach water in Hong Kong 1986-2011



[BACK](#)

Figure 3 - WQO compliance in beach water in Hong Kong 1986-2011

Year	WQO Compliance %
1986	74%
1987	65%
1988	65%
1989	78%
1990	83%
1991	78%
1992	75%
1993	68%
1994	68%
1995	59%
1996	66%
1997	63%
1998	78%
1999	85%
2000	85%
2001	83%
2002	80%
2003	83%
2004	83%
2005	83%
2006	83%
2007	83%
2008	83%
2009	93%
2010	100%
2011	100%

[BACK](#)

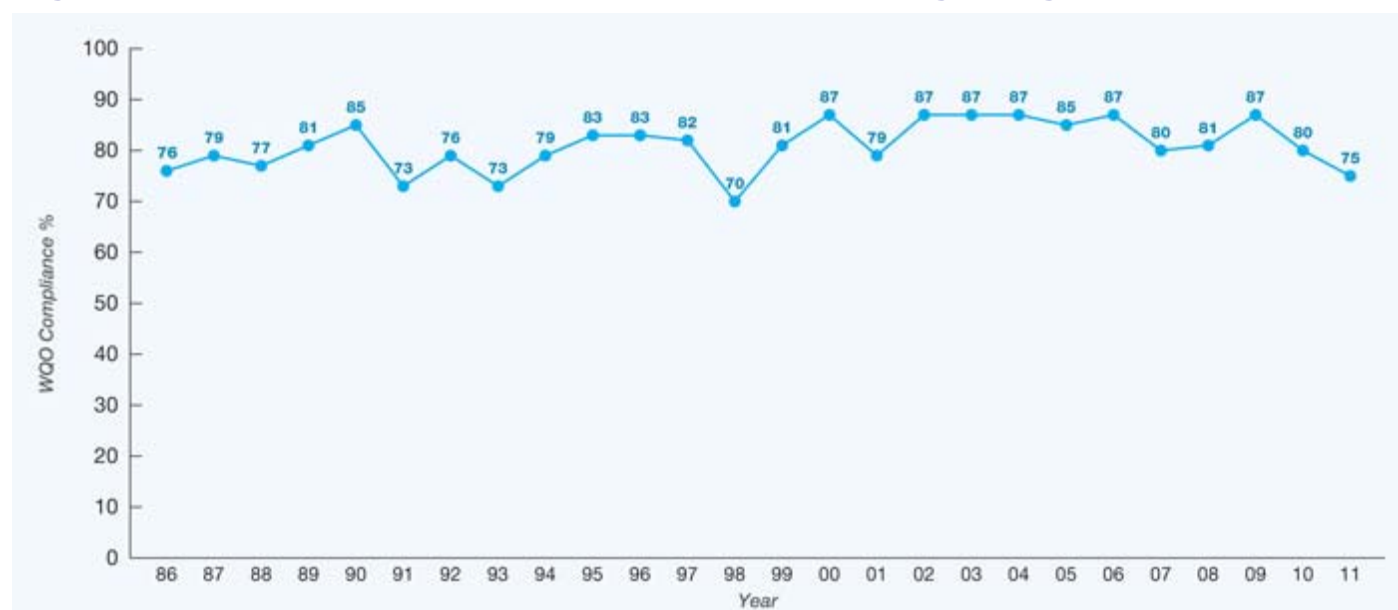
Figure 4 - WQO compliance in marine water of Hong Kong 1986-2011[BACK](#)

Figure 4 - WQO compliance in marine water of Hong Kong 1986-2011

Year	WQO Compliance %
1986	76%
1987	79%
1988	77%
1989	81%
1990	85%
1991	73%
1992	76%
1993	73%
1994	79%
1995	83%
1996	83%
1997	82%
1998	70%
1999	81%
2000	87%
2001	79%
2002	87%
2003	87%
2004	87%
2005	85%
2006	87%
2007	80%
2008	81%
2009	87%
2010	80%
2011	75%

[BACK](#)

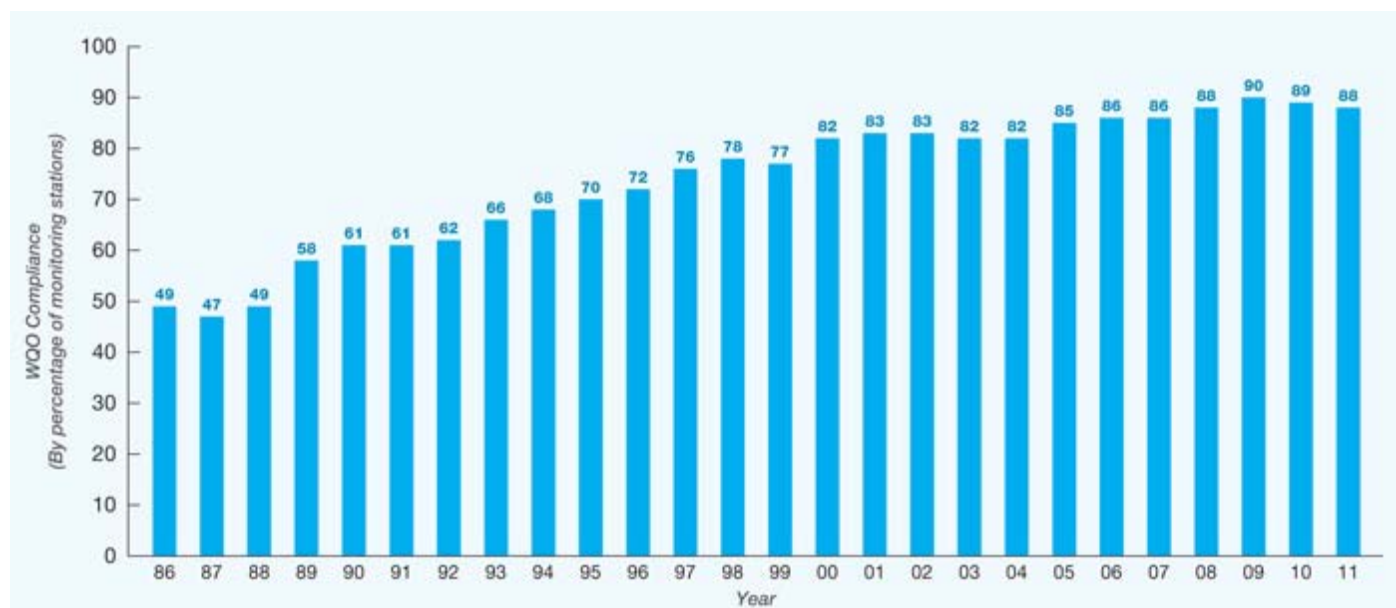
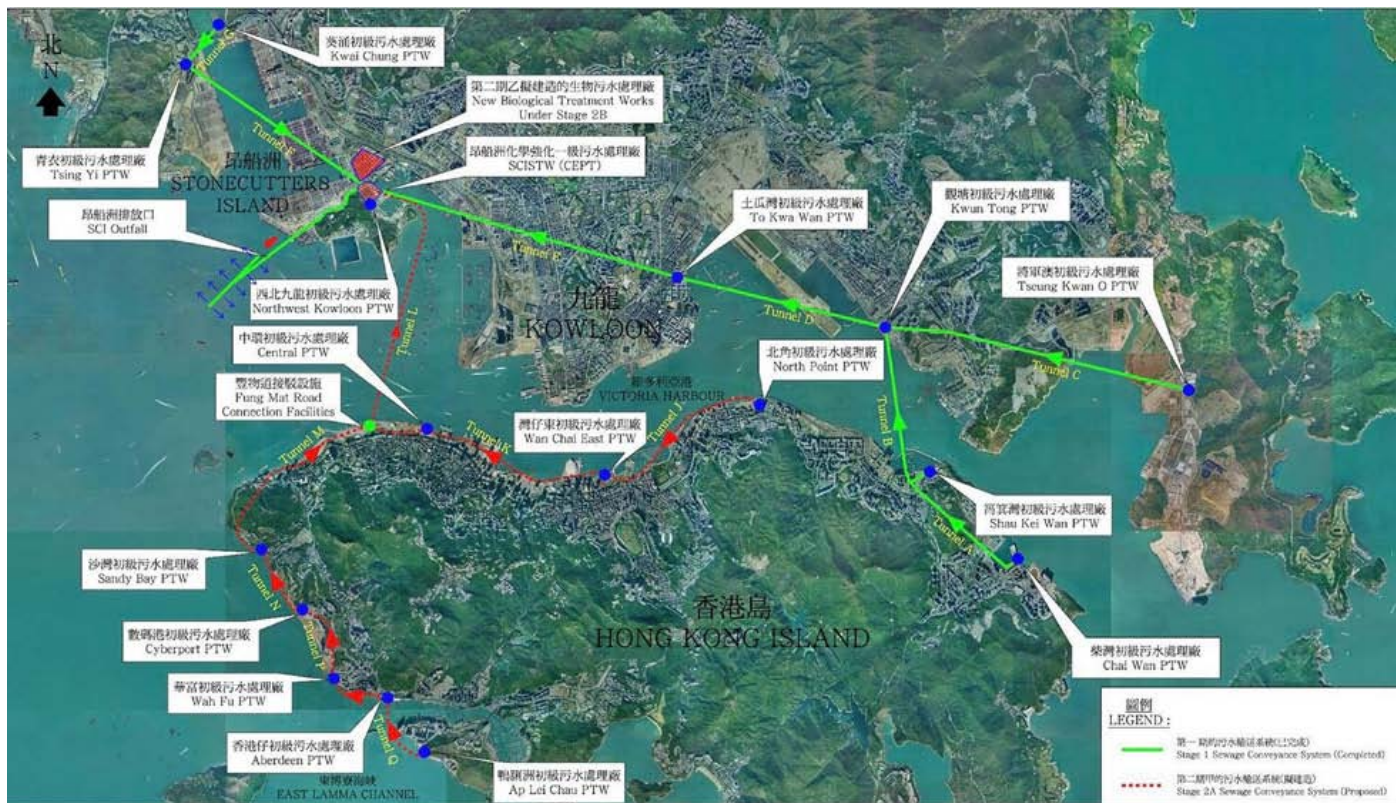
Figure 5 - WQO compliance in inland water of Hong Kong 1986–2011[BACK](#)

Figure 5 - WQO compliance in inland water of Hong Kong 1986–2011

Year	WQO Compliance (By percentage of monitoring stations)
1986	49%
1987	47%
1988	49%
1989	58%
1990	61%
1991	61%
1992	62%
1993	66%
1994	68%
1995	70%
1996	72%
1997	76%
1998	78%
1999	77%
2000	82%
2001	83%
2002	83%
2003	82%
2004	82%
2005	85%
2006	86%
2007	86%
2008	88%
2009	90%
2010	89%
2011	88%

[BACK](#)



Map showing schematic layout of sewage conveyance system constructed and implemented under HATS Stages 1 and 2A, and location of Biological Treatment Works under Stage 2B.

[BACK](#)

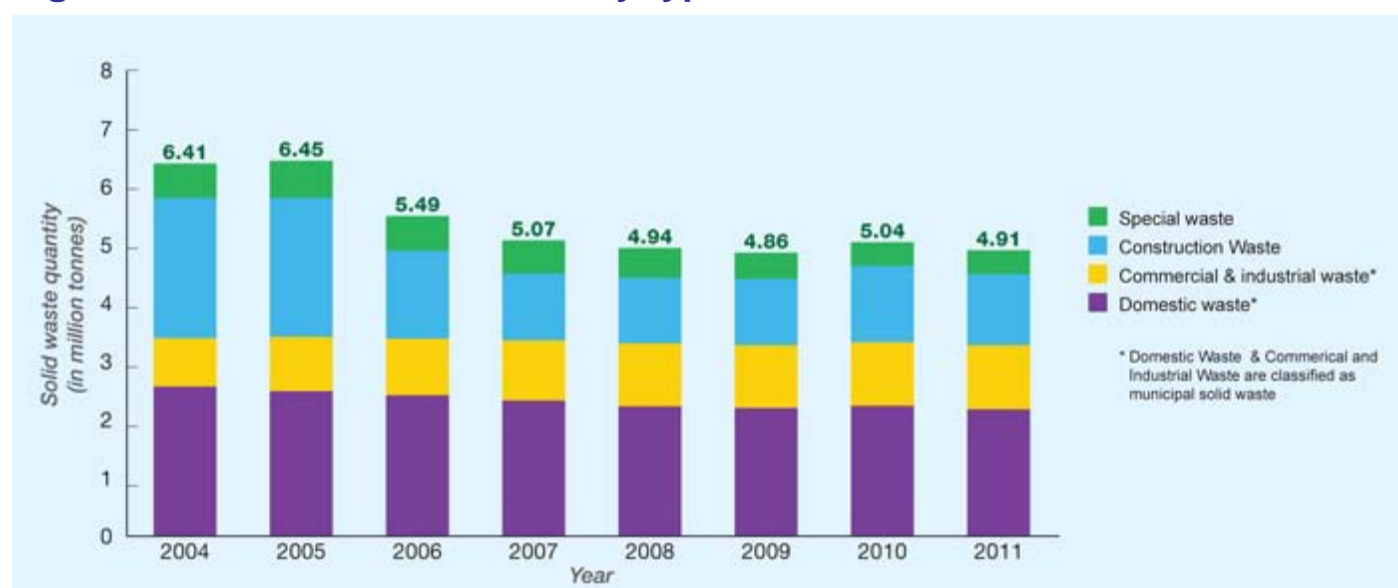
Annual beach rankings from 1997 to 2011

Year	Number of Beaches in Each Rank				Percentage of WQO-compliant beaches	Total
	Good	Fair	Poor	Very Poor		
1997	10	16	12	3	63.4%	41
1998	16	16	8	1	78.0%	41
1999	22	13	6	0	85.4%	41
2000	21	14	6	0	85.4%	41
2001	21	13	5	2	82.9%	41
2002	23	10	2	6	80.5%	41
2003	23	11	1	6	82.9%	41
2004	25	9	5	2	82.9%	41
2005	23	11	1	6	82.9%	41
2006	22	12	5	2	82.9%	41
2007	25	9	7	0	82.9%	41
2008	24	10	7	0	82.9%	41
2009	23	15	3	0	92.7%	41
2010	23	18	0	0	100.0%	41
2011	31	10	0	0	100.0%	41

[BACK](#)

3. Environmentally Sound Waste Management

Figure 6 - Solid waste landfilled by type 2004-2011



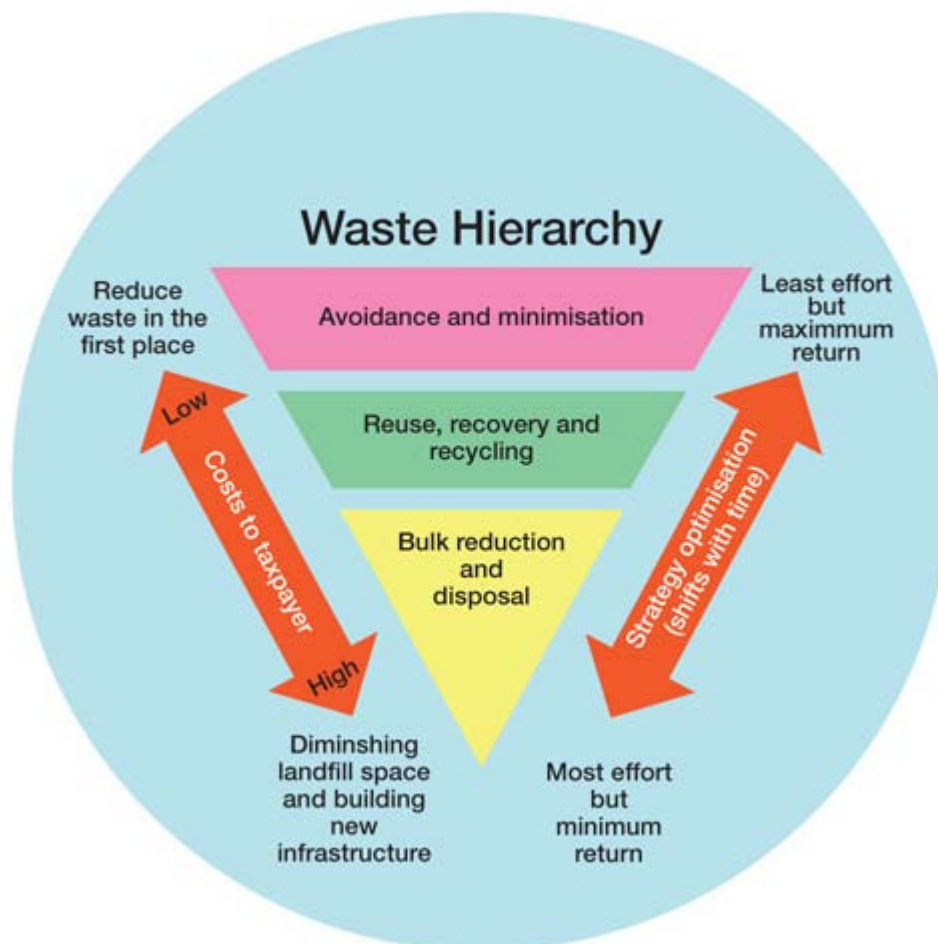
[BACK](#)

Figure 6: Solid waste landfilled by type 2004-2011

	Solid waste quantity (in million tonnes)							
	2004	2005	2006	2007	2008	2009	2010	2011
Special waste	0.59	0.64	0.60	0.57	0.51	0.45	0.41	0.41
Construction Waste	2.41	2.39	1.51	1.15	1.13	1.14	1.31	1.22
Commercial & industrial waste*	0.83	0.93	0.97	1.03	1.08	1.08	1.09	1.10
Domestic waste*	2.57	2.49	2.42	2.33	2.23	2.20	2.24	2.18
Total	6.41	6.45	5.49	5.07	4.94	4.86	5.04	4.91

* Domestic Waste & Commercial and Industrial Waste are classified as municipal solid waste

[BACK](#)



[BACK](#)

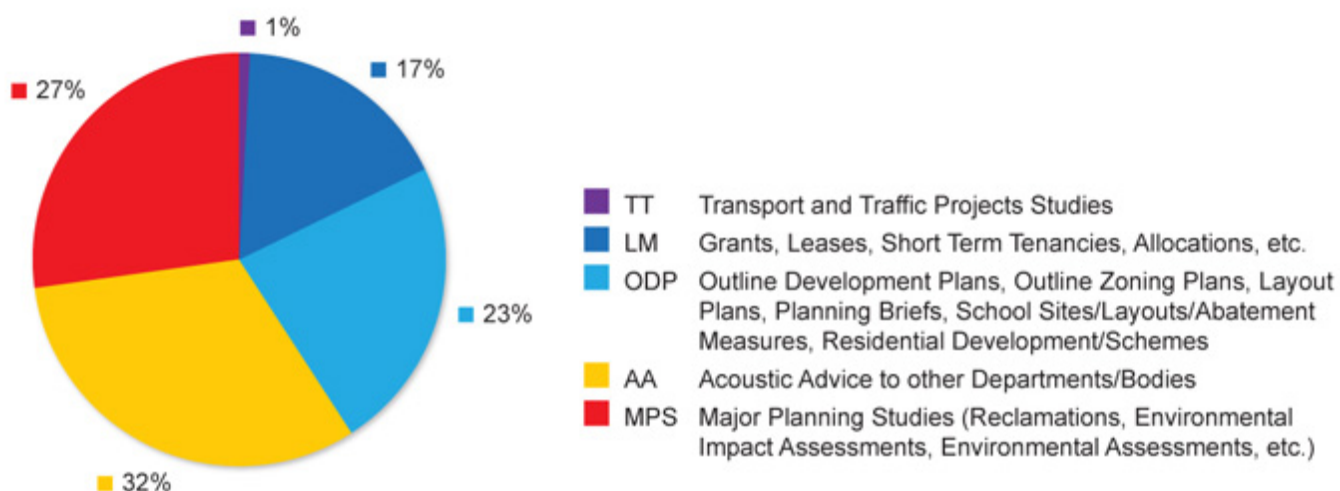
Figure 7 – Waste treated in the Chemical Waste Treatment Centre in 2011

Waste	Tonnes	Percentage
Clinical waste	840	6.6
MARPOL oily water	2 329	18.3
MARPOL waste	1 584	12.4
Spent etchants (Non-ammoniacal)	448	3.5
Land based waste oil	1 874	14.7
Halogenated, non-halogenated & flammable solvent	2 943	23
Acids	432	3.4
Spent etchants (Ammoniacal)	509	4.0
Alkalis	684	5.4
Toxic metals & metallic compound	623	4.9
Others (including cyanide/pesticides/PCB wastes etc.)	486	3.8
Total	12 752	100

[BACK](#)

6. Quieter Environment

Noise planning advice / cases in 2011



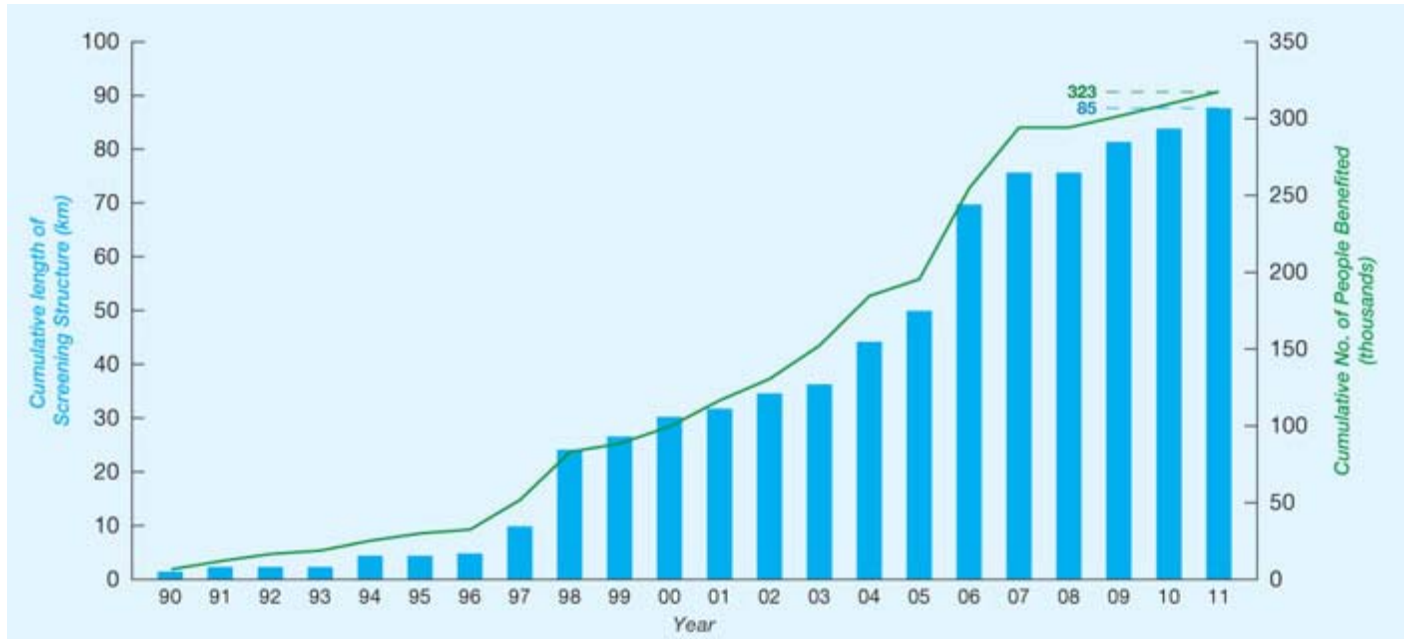
[BACK](#)

Noise planning advice / cases in 2011

Category		Noise Planning Advice/Cases in 2011	Percentage
TT	Transport and Traffic Projects Studies	9	1
LM	Grants, Leases, Short Term Tenancies, Allocations, etc.	205	17
ODP	Outline Development Plans, Outline Zoning Plans, Layout Plans, Planning Briefs, School Sites/Layouts/Abatement Measures, Residential Development/Schemes	278	23
AA	Acoustic Advice to other Departments/Bodies	390	32
MPS	Major Planning Studies (Reclamations, Environmental Impact Assessments, Environmental Assessments, etc.)	323	27
Total		1205	100%

[BACK](#)

Figure 9 - Screening structures to reduce traffic noise 1990-2011



BACK

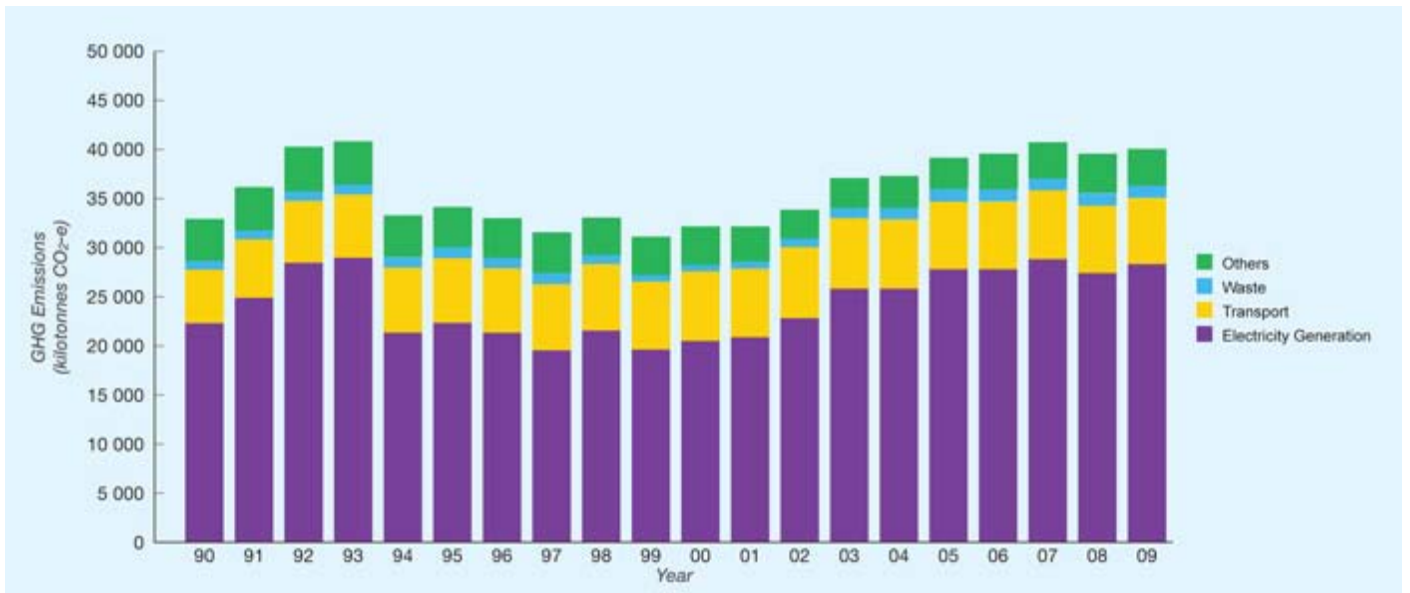
Figure 9 - Screening structures to reduce traffic noise 1990-2011

Year	Cumulative Length of Screening Structure (km)	Cumulative No. of People Benefited (thousands)
1990	2	9.3
1991	4	16.9
1992	4	22.4
1993	4	23
1994	6	24.9
1995	6	28.3
1996	7	31.3
1997	15	50.6
1998	27	75.3
1999	28	77
2000	30	100
2001	34	124
2002	37	139
2003	38	152
2004	45	173
2005	49	194
2006	69.4	254.2
2007	77.7	290
2008	77.7	290
2009	81	310
2010	84	320
2011	85	323

[BACK](#)

7. Cross-boundary and International Co-operation

Figure 10 – Greenhouse gas emissions 1990-2009



[BACK](#)

Figure 10 – Greenhouse gas emissions 1990-2009

Year	Greenhouse gas (kilotonnes CO ₂ -e)				
	Electricity Generation	Transport	Waste	Others	Total
1990	22 900	5 940	1 550	4 915	35 300
1991	25 600	6 470	1 600	5 091	38 800
1992	29 200	6 870	1 660	5 282	43 000
1993	29 700	6 970	1 760	5 041	43 400
1994	21 900	7 270	1 770	4 937	35 900
1995	23 000	7 180	1 940	4 740	36 900
1996	21 800	7 170	1 900	4 668	35 600
1997	20 000	7 340	2 010	4 795	34 100
1998	22 100	7 430	1 550	4 418	35 500
1999	20 100	7 570	1 120	4 535	33 300
2000	21 200	7 800	1 120	4 555	34 600
2001	21 600	7 640	1 260	4 107	34 700
2002	23 400	7 890	1 490	3 395	36 200
2003	26 500	7 810	1 800	3 502	39 600
2004	26 400	7 640	2 000	3 763	39 800
2005	28 600	7 480	2 220	3 660	42 000
2006	28 500	7 480	2 140	4 184	42 300
2007	29 600	7 640	2 170	4 262	43 600
2008	28 000	7 540	2 150	4 640	42 300
2009	29 100	7 290	2 190	4 294	42 900

[BACK](#)

5 Social Engagement

2. Promoting Community Involvement

Figure 11 - No. of visitors to our facilities in 2011

Resource Centers	Number of People
EcoPark Visitor Centre	34 595
Fanling Environmental Resource Centre	24 329
Tsuen Wan Environmental Resource Centre	12 643
Wan Chai Environmental Resource Centre	22 795
Mobile Environmental Resource Centre	4 023
Kennedy Town Environmental Exhibition Corner	9 291
Lung Fu Shan Environmental Education Centre	4 882

[BACK](#)