



Environmental Protection

The Secretary for the Environment, who has overall policy responsibility for environmental protection, receives assistance on the formulation of new policies as well as on specific environmental issues from the Permanent Secretary for the Environment, who is also the Director of Environmental Protection. The Advisory Council on the Environment advises the Government on measures for the prevention and abatement of pollution.

The Environment and Conservation Fund (ECF) provides grants to local non-profit making organisations for the implementation of educational, community waste recovery, research, technology demonstration and other projects in relation to environmental and conservation matters. The Environmental Campaign Committee, with funding from the ECF, organises events to promote public environmental awareness. The environmental resource and education centres set up by the EPD provide the public with easy access to environmental information.

Planning Against Pollution: Considerable emphasis is placed on preventing environmental problems by applying environmental impact assessment (EIA) procedures to ensure that environmental factors are considered at all stages of project planning and development.

At strategic level, key environmental information relating to major proposals has to be provided in submissions to the Executive Council and Policy Committee to facilitate decision-making. For some major proposals or plans, strategic environmental assessment might be conducted.

At local level, the environment is safeguarded through the application of the guidance provided in the Hong Kong Planning Standards and Guidelines.

The Environmental Impact Assessment Ordinance provides the legal framework for applying the EIA process to designated projects and implementation of agreed environmental measures through Environmental Permits.

To lead by example, all government bureaux and departments are required to publish annual environmental reports starting 2000. Private and government owned public corporations are encouraged to do likewise.

The EPD has been actively promoting environmental audit, environmental management system and environmental reporting to improve corporate environmental performance in both private and public sectors. To assist organisations in pursuing environmental management, useful guidelines are available at the EPD's website at <http://www.epd.gov.hk>.

Legislation and Pollution Control: The EPD is responsible for the enforcement of most of the measures contained in the seven main pollution control legislation.

Air: The control on air pollution is effected under the Air Pollution Control Ordinance. Major emitters, such as power plants and cement plants, are categorised as

Specified Processes and subject to stringent licensing control. Emission caps have been imposed on all power stations through licence conditions since 2005. Legislative amendments have also been made to facilitate the stipulation of emission caps from 2010 onwards by a Technical Memorandum made under the Ordinance. For other processes, the installation and alteration of fuel burning equipment need prior approval from the EPD. To reduce air pollutants, limits are imposed on the sulphur content of fuels sold in Hong Kong. All commercial and industrial processes are required to use ultra low sulphur diesel under an amendment regulation that became effective on October 1, 2008. Subsidiary regulations control smoke from furnaces, open burning, construction dust, volatile vapour from petrol filling stations and dry-cleaning machines. Regulations controlling volatile organic compounds emitted from certain consumer goods, architectural paints and printing industry came into effect on April 1, 2007. The control will be extended to vehicle refinishing paints, vessel and pleasure craft paints, adhesives and sealants in phases starting from January 1, 2010.

Specific control on asbestos work requires registration of asbestos consultants, laboratories, contractors and supervisors. Import and sale of blue and brown asbestos are banned. To promote good indoor air quality (IAQ), an IAQ Management Programme has been introduced. An important part of the programme is the IAQ Certification Scheme for Offices and Public Places. To enhance the quality of IAQ assessment and credibility of the IAQ Certification Scheme, only IAQ Certificate Issuing Bodies accredited by Hong Kong Accreditation Service can issue IAQ certificates and reports starting from February, 2008.

To tackle air pollution caused by vehicle emissions, the Government is implementing a number of programmes. These include introducing stringent vehicle fuel and emission standards that are practical and commercially viable, exploring clean alternatives to diesel vehicles, strengthening vehicle emissions inspection and tightening the control on smoky vehicles. The Government has tightened the emission standards for newly registered vehicles to Euro IV. To reduce emission from diesel vehicles, all newly registered taxis must use liquefied petroleum gas (LPG). Almost all taxis are now fuelled by LPG. In August 2002, the Government started offering incentives to encourage diesel public light buses to switch to LPG or electric light buses. The programme was completed in end 2005 and around 60% of the public light buses now run on LPG. Advanced smoke test by chassis dynamometer has been used to test all smoky vehicles spotted under the Smoky Vehicle Control Programme. Ultra low sulphur diesel has become a statutory standard. It is a mandatory requirement to install particulate reduction devices for all pre-Euro diesel vehicles. The government launched two new schemes on April 1, 2007

to improve roadside air quality by reducing vehicle emissions, namely a scheme to incentivise early replacement of old diesel commercial vehicles and another to encourage the use of environment-friendly petrol private cars. On December 1, 2007, the Government offered a concessionary duty rate of \$0.56 per litre for Euro V diesel which has a sulphur content of 0.001%. Since then, Euro V diesel has been available at all petrol filling stations in Hong Kong. The Government subsequently waived entirely the fuel tax for Euro V diesel on July 14, 2008. From April 1, 2008, buyers of commercial vehicles meeting the qualifying standard for environment-friendly commercial vehicles, which is set at Euro V level, will enjoy concessions for their first registration taxes. Joining the global effort to protect the ozone layer, Hong Kong has honoured the full obligations of the Montreal Protocol and its subsequent amendments through the enforcement of the Ozone Layer Protection Ordinance. To comply with the latest requirement under the Protocol, Hong Kong will ban the import of HCFC products into Hong Kong by phases starting from 2010.

To further improve our air quality for better protection of public health, the Government proposes to update the existing Air Quality Objectives (AQOs) with reference to the World Health Organisation's air quality guidelines. On July 23, 2009, a 4-month public consultation on the proposed new AQOs and the emission control measures for achieving these objectives was launched. The Government is now considering the views collected during the consultation for deciding on how best to take forward the proposal.

Waste: The Waste Disposal Ordinance provides a framework for control on the collection, treatment and disposal of all waste types. More than 90 per cent of livestock waste is being disposed of by environmentally acceptable means. There is cradle-to-grave control on chemical waste. The ordinance enables permit control on import and export of waste in line with the requirements under the Basel Convention. Furthermore, with effect from April 2006, import of hazardous waste from developed countries is banned.

To create economic incentives for waste minimisation, waste producers are required to pay for part of the treatment cost for waste delivered to the Chemical Waste Treatment Centre. Private sector users of refuse transfer stations are required to pay for the service. Under the same polluter pays principle, the ordinance also requires private sector users of the government's construction waste disposal facilities to pay for the service.

The Dumping At Sea Ordinance controls marine dumping activities in line with the requirements under the London Convention.

Water: The Water Pollution Control Ordinance provides for declaration of 10 Water Control Zones and four supplementary Water Control Zones to cover the whole area of Hong Kong. All discharges into these zones have been subject to licensing control. A Technical Memorandum of Effluent Standards provides transparency in setting licence limits. They are designed to enable achievement of the Water Quality Objectives.

Noise: The Noise Control Ordinance provides for the control on noise from construction sites, domestic premises and public places, industrial and commercial premises, motor vehicles, intruder alarm systems as well as specified noisy equipment. Noise from general construction works at night and on public holidays is controlled through a permit system which has essentially banned non-essential noisy construction works in built-up areas. All percussive piling works require a permit and are prohibited at night and on public holidays. Noisy diesel, steam and pneumatic piling hammers have been phased out in built-up areas. Hand-held breakers and air compressors must comply with stringent noise emission standards and be fitted with noise emission labels. The

management of bodies corporate is held personally liable for repeated noise offences.

Noise from domestic premises and public places is controlled by the police on a reasonableness approach, whereas noise from industrial or commercial premises is controlled by the EPD through noise abatement notices. To minimise traffic noise, newly registered vehicles including motor cycles are required to comply with stringent noise emission standards.

Enforcement of the above pollution control ordinances is undertaken by four Regional Offices and the Territorial Control Office of the EPD through investigation of pollution complaints, inspection and licensing of pollution sources, issuing pollution abatement notices and prosecution of offenders. The offices have proved to be very effective in tackling local pollution concerns and strengthening communication with the local communities on the government's environmental protection work. In parallel, the Business Facilitation Office also operates a Compliance Assistance Centre and develops partnership with the trade and industry to assist in law compliance and pollution prevention, promote corporate environmental management as well as raising environmental awareness of the general public.

Sewage and Waste Collection, Treatment and Disposal: A sewage disposal strategy has been adopted by the Government and 16 sewerage master plans (SMPs) devised to cover the whole territory. Most of these SMPs have been reviewed in the light of the changing population projections and associated project developments proposed for the HKSAR.

A major deep tunnel collector system and treatment works handle sewage generated from all districts around Victoria Harbour Area. So far, 24 kilometres of large tunnels under the central urban area and a sewage treatment works at Stonecutters Island with a capacity to provide chemically enhanced primary treatment to an average dry weather flow of up to 1.7 million cubic metres of sewage per day, were brought fully into operation in late 2001. This system has resulted in significant water quality improvements in many parts of the harbour. It is planned to commence construction of the next phase of the system in 2009. This will comprise a further 21 kilometres of tunnel up to 160 metres below sea-level to collect the remaining sewage generated around Victoria Harbour for delivery to an expanded Stonecutters Island Sewage Treatment Works, which will be capable upon completion in 2014 of providing treatment and disinfection to an average dry weather flow of about 2.45 million cubic metres per day. In order to provide early improvements to the water quality in the western waters and the beaches along the Tsuen Wan coast, part of the disinfection facilities has been advanced for completion in late 2009 and construction commenced in April 2008.

The sewerage system is also being extended to serve more rural village areas. As of June 2008, a population of about 86 500 in the rural areas has been connected to public sewers.

The EPD is the waste disposal authority responsible for planning and development of waste treatment and disposal facilities.

A daily total of about 9 430 tonnes of municipal solid waste, including domestic, commercial, and industrial waste, is collected by the Food and Environmental Hygiene Department and private waste collectors for disposal at three large modern landfills in the New Territories. Construction waste disposed of at landfills amounted to a further 2 910 tonnes per day in 2007.

The EPD published "A Policy Framework for the Management of Municipal Solid Waste (2005-2014)" in December 2005. The Policy Framework sets out a comprehensive strategy consisting of a series of tried and proven policy tools and measures to tackle the waste

problem head on. Enshrining the principle of “polluter pays”, these policy tools and measures, including municipal solid waste charging and Producer Responsibility Scheme (PRS), will create economic incentives for waste reduction, recovery and recycling. In this connection, the Product Eco-responsibility Ordinance (Cap. 603) was enacted in July 2008. It provides the legal basis for introducing PRS in Hong Kong. An environmental levy on plastic shopping bags, operative since July 2009, is the first PRS introduced under the Ordinance. It aims to reduce the indiscriminate use of plastic shopping bags. Following the launch of the environmental levy scheme, the EPD will study the possibility of introducing another PRS to mandate the proper management of waste electrical and electronic equipment. For the purpose of consulting the public and the trade, the EPD is drawing up a consultation document. For unavoidable and non-recyclable waste, the department proposes to develop state-of-the-art multi-technology integrated waste management facilities with thermal technology as the core treatment technology to substantially reduce the volume of such waste before final disposal and to recover energy from the waste. The EPD has selected two potential sites that could be considered for developing the first phase of the integrated waste management facilities and would decide on the final site in 2010. In parallel the department is planning the organic waste treatment facilities for the recycling of food waste, which is a main constituent of the municipal solid waste in Hong Kong. The first phase of the organic waste treatment facilities would be located at Siu Ho Wan, North Lantau and it is anticipated to be commissioned before mid-2010’s for recycling source separated food waste to useful compost and biogas products.

Notwithstanding EPD’s efforts on waste reduction, recovery and recycling, the fact remains that the three existing landfills will be filled up in early to mid 2010s.

The EPD has identified some extension schemes for the existing landfills for the final repository of waste that cannot be recycled or treated such as mixed construction waste and for the residues after treatment.

Seven refuse transfer stations are now in operation. They process about 5 450 tonnes of municipal waste per day for containerised bulk transfer to landfills. Six of the stations also provide the service to private waste collectors.

The Chemical Waste Treatment Centre on Tsing Yi Island has treated more than 851 000 tonnes of chemical waste since the plant commissioned in 1993. Plans are being formulated for the disposal of special waste including clinical waste and sewage sludge. A storage facility for low level radioactive waste on Siu A Chau was commissioned in 2005. There are 13 closed landfills in Hong Kong and the restoration works in all 13 closed landfills have been completed, and the sites are safe for beneficial use by the public. A soccer-cum-baseball pitch at the restored Sai Tso Wan Landfill was opened in April 2004. Recreational facilities will be progressively developed at other restored landfills.

Apart from government’s efforts in waste management, local recycling operations are playing an important role. In 2007 more than 2.81 million tonnes of recyclable waste were recovered with an export value of \$6 billion. The EPD is building a 20-hectare EcoPark in Tuen Mun for providing long-term land to the recycling and environmental industry with a view to encouraging investment in advanced and cost-effective technologies. Four of the six Phase I lots of the EcoPark have been leased to the industry since 2007. The remaining lots in Phase I will be tendered by end 2008.

Environmental Monitoring and Investigations: The EPD has introduced environmental monitoring schemes and specific investigations to establish an objective basis for local action.

Water quality monitoring includes 82 routinely-sampled stations for inland waters, 94 for marine waters and 60 for bottom sediments. EPD monitors the water quality of 41 gazetted beaches closely during the bathing season and reports on the latest beach water quality weekly.

Air pollutant levels are measured continuously at 11 general and three roadside monitoring stations. An Air Pollution Index (API) was introduced in June 1995 to provide a simple and concise indication of air quality. From July 1999, information on API has been released every hour via the Internet and telephone hotline.

Surveys of waste generation throughout Hong Kong have been conducted since 1981 to collect information needed for planning future waste disposal facilities.

Most major development projects are subject to environmental monitoring and audit. In 2007, the EPD oversaw about 120 such programmes to ensure that recommendations in the EIA were strictly implemented and appropriate mitigatory actions were promptly taken.

Regional and International Co-operation: To tackle regional environmental issues, Hong Kong has been co-operating with its Mainland partners through the Joint Working Group on Sustainable Development and Environmental Protection between the HKSAR and Guangdong Province.

The two governments have drawn up a Regional Air Quality Management Plan that aims to jointly reduce four major regional air pollutant emissions by 20 per cent to 55 per cent by 2010, taking 1997 as the base year. Both sides are pressing ahead with the abatement measures in order to achieve the emission reduction targets. Since November 2005, a regional air quality monitoring network with 16 monitoring stations covering the entire Pearl River Delta (PRD) has started daily reporting of a Regional Air Quality Index to the public. The monitoring results of the network in 2008 and first half of 2009 show a substantial reduction in the concentration of the main pollutants in the region.

The EPD, in collaboration with the Guangdong authorities and the major industry associations in Hong Kong, launched a Cleaner Production Partnership Programme in April 2008. The Government has committed more than \$93 million to take forward this five-year programme, which provides technical support to Hong Kong-owned factories in the PRD region to facilitate adoption of cleaner production technologies and practices. So far more than 380 funding applications were approved.

In August 2008, the governments of HKSAR and Guangdong Province reached a consensus to map out a strategy to transform the PRD region into a green and quality living area. Building on the existing co-operation, both sides will seek to widen collaboration efforts to address the environmental issues facing the PRD region. In addition, both sides signed an Environmental Co-operation Agreement in August 2009, and agreed to undertake a joint study on the post-2010 emission reduction arrangements for the region.

Hong Kong and its neighbour Shenzhen, meanwhile, are jointly implementing action programmes to reduce pollution of the adjoining water bodies, including Deep Bay and Mirs Bay. The EPD and the Shenzhen Environmental Protection Bureau also entered into agreements to strengthen co-operation on environmental protection and promotion of cleaner production in December 2007 and November 2008 respectively.

The Stockholm Convention on Persistent Organic Pollutants (POPs) became effective to the HKSAR in November 2004. The HKSAR Implementation Plan is included in China’s National Implementation Plan. The Rotterdam Convention on prior informed consent of hazardous chemical trades became effective to the HKSAR in August 2008. The Hazardous Chemicals

Control Ordinance, came into operation in April 2008 to regulate non-pesticide hazardous chemicals, including those subject to the Stockholm Convention and the Rotterdam Convention.

To address the climate change challenge, the HKSAR joins international efforts, as part of the People's Republic of China, under the United Nations Framework Convention on Climate Change and its Kyoto Protocol. It has also

adopted the Asia-Pacific Economic Cooperation's target to reduce Hong Kong's energy intensity by 25% between 2005 and 2030. A host of actions are being pursued to enhance energy efficiency, use clean fuels, rely less on fossil fuels and to promote a low carbon economy. The HKSAR has also joined the C40 Cities Climate Leadership Group to enhance cooperation with participating cities to combat climate change.