

2008 Environmental Report

**Transport Branch
Transport and Housing Bureau**

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INTRODUCTION

The Transport and Housing Bureau (THB) is responsible for policy matters in two portfolios, viz., Transport and Housing, handled by the Transport Branch (TB) and the Housing Department (HD) respectively. This environmental report covers the environmental performance of TB of THB. On the part of the environmental performance of HD, please visit its website at <http://www.housingauthority.gov.hk/en/aboutus/resources/publications/0,,1-0-0-0,00.html>.

The Secretary for Transport and Housing is the head of the Bureau. She is assisted by the Permanent Secretary for Transport and Housing (Transport) and the Permanent Secretary for Transport and Housing (Housing) / Director of Housing. In addition, TB oversees the operation of their executive departments, namely, the Civil Aviation Department, Highways Department, Marine Department and Transport Department.

KEY RESPONSIBILITIES OF THE TRANSPORT BRANCH

We are responsible for the formulation of policies relating to the development of transport infrastructure, provision of transport services, traffic management, maritime transport and logistics, air services and civil aviation management. In the process of policy-formulation, sustainability is also a key consideration in the development.

The major areas of policy responsibilities include –

- to plan for and implement the construction and improvement of our transport infrastructure, with emphasis on railways;
- to further promote the usage of public transport services by improving their quality and co-ordination;
- to effectively manage road use, reduce traffic congestion and promote road safety;
- to continue to support environmental improvement measures in transport-related areas;
- to enhance and promote Hong Kong as an international and regional transportation and logistic hub;
- to enhance, in partnership with the Airport Authority, the competitiveness of the Hong Kong International Airport and promote Hong Kong as an international and regional aviation centre; and
- to enhance the competitiveness of the Hong Kong Port and to strengthen Hong Kong's position as an international shipping and maritime centre.

ENVIRONMENTAL GOALS OF THE TRANSPORT BRANCH

We are committed to –

- ensuring that our policies are environmentally friendly;
- ensuring that all programmes and operations under our purview are conducted in an environmentally responsible manner; and
- enhancing staff's environmental awareness.

To achieve the above committed environmental goals, we give effect through pursuit of the following objectives -

LAND AND WATERBORNE TRANSPORT

- We will continue to provide transport infrastructure and services in an environmentally friendly manner.

CIVIL AVIATION

- We aim to ensure that the legislative framework and administrative measures are effective in minimising the environmental impact of aircraft operations.
- We will continue to work with the Airport Authority (AA) to ensure that the environmental impact of airport development and operations is minimised and that AA and the Civil Aviation Department are pro-active in minimising pollution and disturbance from activities at the Hong Kong International Airport.

PORT AND MARITIME SERVICES

- We aim to ensure that our legislative framework and administrative measures are effective in minimising the environment impact of shipping and port operations.
- We will continue to work, in conjunction with the Environmental Protection Department and the port and maritime community, to ensure that the environmental impact of port development and operations is minimised.

LOGISTICS

- We will continue to work with the logistics community to promote measures to protect the environment and to ensure that the environmental impact of logistics operations is minimised.

ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

LAND AND WATERBORNE TRANSPORT

Hong Kong is one of the most densely populated cities in the world. A safe, efficient, reliable and environmentally friendly transport system is important to the sustainable development of the city. On environmental management, we will continue to press ahead with the following initiatives -

- priority for efficient and environmentally friendly transport modes;
- reduction in traffic congestion and better inter-modal co-ordination;
- greater emphasis on pedestrian facilities; and
- application of Information Technology (IT) to transport management.

Priority for efficient and environmentally friendly transport modes

Railways are environmentally friendly, safe and efficient mass carriers in Hong Kong, carrying about 35% of our public transport passengers. At present, the total length of our railway under operation is about 212 km. The railway network will be further expanded to about 219 km through the addition of the Kowloon Southern Link and Tseung Kwan O South Line in 2009.

Railway Development Strategy 2000 has recommended the implementation of a number of new passenger lines, as follows -

- Kowloon Southern Link;
- West Island Line (WIL);
- Shatin to Central Link (SCL);
- Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail

- South Island Line (SIL);
- Northern Link (NOL); and
- North Hong Kong Island Line (NIL).

The construction of the WIL started in August 2008. The MTR Corporation Limited (MTRCL) is working on the detailed design of XRL and the construction works are planned to commence in late 2009. The MTRCL is also carrying out the further planning and design of three other railway projects, namely SCL, SIL and the extension of the existing Kwun Tong Line to Whampoa as Kwun Tong Line Extension. The NOL and NIL are under review in light of future demands.

To ensure that resources for railway projects are effectively invested, the Government reviews from time to time the priority of the railway projects on the drawing board taking into account changes in the community's transport needs, population projection and land use planning.

With our policy for better use of railways as the backbone of the passenger transport system, the Government will continue with its efforts to enhance the co-ordination between railway and other public transport modes to avoid wasteful duplication of public transport resources and alleviate traffic congestion. Railway developments and supportive infrastructure will be designed and built to better serve community needs. The provision of the new interchange subway system between the East Tsim Sha Tsui Station and the Tsim Sha Tsui Station is a case in point.

□ ***Reduction in traffic congestion and better inter-modal co-ordination***

To reduce traffic in busy areas and hence the impact on the environment, we have taken the following measures -

- implementation of more bus-bus, bus-rail, green minibus-rail and green minibus-green minibus interchange schemes;
- rationalisation of bus routes and stops; and
- introduction of Park-and-Ride schemes by railway corporations.

Bus-bus interchange schemes

Bus-bus interchange schemes are pursued as one of the measures to achieve more efficient use of bus resources, relieve congestion, minimise environmental impact on busy corridors, and reduce the need for long-haul point-to-point bus routes.

Up to end 2008, a total of 229 bus-bus interchange schemes offering fare concessions of \$0.1 to \$29.2 to passengers had been implemented. Through the provision of fare discount incentives and selection of convenient interchanging locations, the implementation of these schemes is well received by the public. On average, some 120,000 passengers use these interchanges everyday. The schemes have also improved the bus network and facilitated inter-district travel whilst minimising the need for introducing additional bus routes.

Bus-rail and green minibus-rail interchange schemes

To promote the interchange between rail and other public transport modes, interchange discount concessions in the form of bus-rail interchange (BRI) and green minibus-rail interchange (GRI) schemes have been introduced. As at end 2008, three franchised bus routes and 55 green minibus routes were offering fare concessions to passengers involved in the BRI (\$1.0) and GRI (ranged \$0.3 to \$3.0) schemes for the MTR. Besides, passengers travelling on MTR East Rail Line could enjoy free interchange on MTR feeder bus routes K12, K14, K16, K17 and K18 at designated MTR stations along East Rail Line. At the same time, MTRCL also offered free transfer on MTR bus routes for West Rail and Light Rail passengers in North-west Transit Service Area (TSA) at the moment.

Green minibus-green minibus interchange schemes

Green minibus-green minibus interchange schemes are introduced to achieve more efficient use of minibus resources and minimise environmental impact on public roads subject to financial capability of the operators concerned. To promote the interchange between two different green minibus routes, fare concessions were offered to interchanging passengers on 35 routes (ranged \$1.00 to \$3.50) as at end 2008.

Rationalisation of bus routes and stops

To improve the efficiency of bus operation and to alleviate their traffic and

environmental impact, the Government has been working together with the franchised bus companies to rationalise bus services and improve bus stopping arrangement.

Through route amalgamation, truncation, modification and frequency adjustment, about 170 bus trips passing through Central and about 90 bus trips passing through Yee Wo Street per day were removed in 2008. On the Kowloon side, about 120 bus trips were removed from Nathan Road.

Since January 2002, bus companies have deployed only Euro II and above buses on Yee Wo Street to help enhance the environment in the pedestrian-busy corridor. The Government has been working with franchised bus companies on deployment of more Euro II and above buses on other busy corridors including Hennessy Road, Queensway, Des Voeux Road Central and Nathan Road. As at end 2008, about 88% of the buses deployed on the above busy corridors were Euro II and above buses.

Park-and-Ride schemes

Park-and-Ride (PnR) facilities are usually provided at public transport hubs strategically located on the fringe of busy business/urban areas so that motorists can leave their cars behind and use public transport to complete their trips.

PnR schemes have been operating at Hong Kong, Kowloon and Tsing Yi Stations of Airport Express, at Choi Yuen Road near East Rail's Sheung Shui Station, at West Rail Kam Sheung Road Station, at Choi Hung Station and some commercial carparks located near Olympic Station of the Tung Chung Line and Hang Hau Station of the Tseung Kwan O Line.

From time to time, the feasibility of providing PnR facilities at other existing railway stations would be assessed. In planning future rail stations and major transport interchanges, especially those on the fringe of the urban area, PnR facilities will be developed wherever appropriate.



Park-and-Ride Facilities

□ ***Greater emphasis on pedestrian facilities***

Promoting better pedestrian environment is one of the means to enhance the quality of life. We continued to implement additional pedestrian schemes in 2008. In Mong Kok, the trial part-time pedestrian scheme at Sai Yeung Choi Street South, Nelson Street, Soy Street and Tung Choi Street was taking shape and being closely monitored. In addition, we initiated studies on the development of footbridge/subway systems in Causeway Bay, Mong Kok and Yuen Long.



Sai Yeung Choi Street South
(part-time pedestrian scheme)

Footpath widening is an effective means to improve pedestrian environment. We are making good progress on footpath widening works and landscaping works in various districts, including Nathan Road (between Granville Road and Jordan Road) in Tsim Sha Tsui; Bowring Street, Woosung Street and Saigon Street in Jordan; Kweilin Street, Yu Chau Street and Fuk Wing Street in Sham Shui Po.

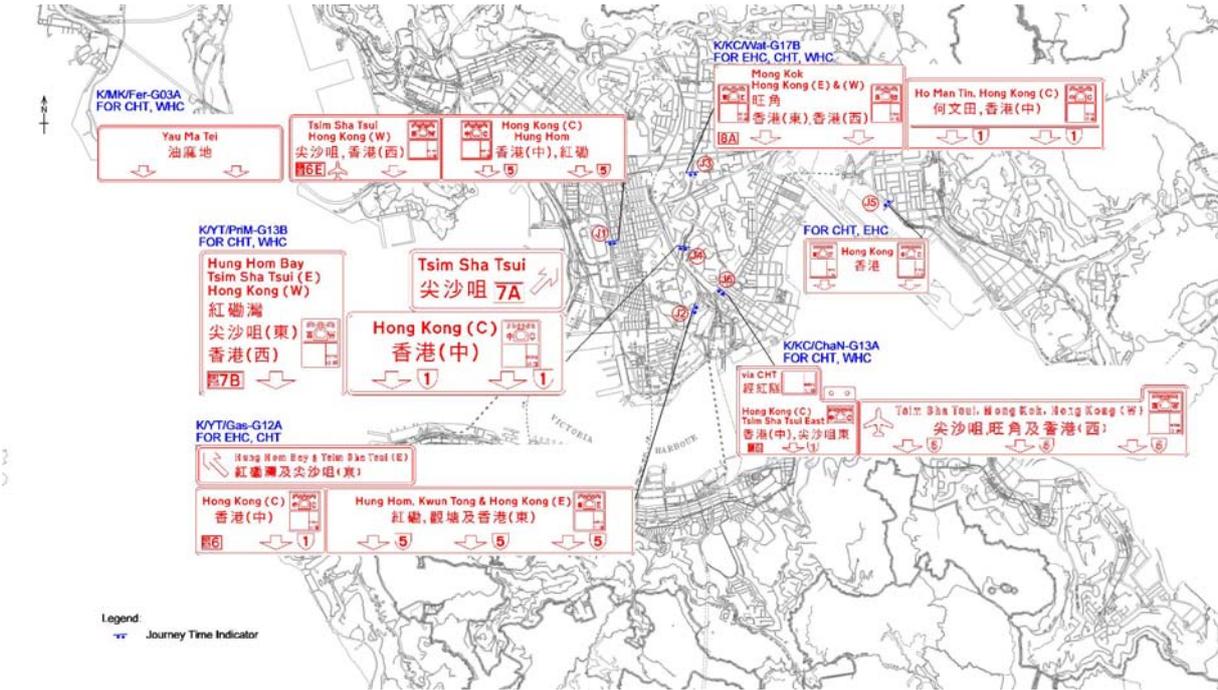
□ ***Application of IT to transport management***

We are continuing to promote the deployment of advanced information and

telecommunication technologies to enhance the performance of the transport system in Hong Kong, thus reducing fuel consumption, vehicle emissions and travelling time. We shall enhance and expand the Journey Time Indication System, introduce new public services on the Internet, and continue to expand the Area Traffic Control system to other districts.

Journey Time Indication System

In the light of the satisfactory performance of the Journey Time Indication System on Hong Kong Island, we will expand the system to Kowloon side. The system will provide the latest traffic situation for motorists crossing the harbour from Kowloon side so that they can make informed choices of the route and avoid congested tunnels. The journey time and average vehicle speed along major tunnel approach roads in Kowloon will also be shown on TD's website. The project commenced in late 2008 for completion in mid 2010.



Proposed Locations of Journey Time Indicators in Kowloon

Public Services on the Internet

In 2008, we were in the process of integrating special traffic news, real-time closed-circuit television images and a traffic speed map on a common platform called Road Traffic Information Service on the Internet for road users and the public to better plan their journeys and avoid traffic congestions. Such information can also be

accessed through mobile phones and Personal Digital Assistant devices (commonly known as PDA). The traffic speed map now covers major roads on northern Hong Kong Island, Kowloon and New Territories South.

To enable commuters to make better use of public transport services, we were developing a Public Transport Enquiry Service which is a one-stop multi-modal public transport route search system with map information to the public in the internet.

We were also acquiring a Driving Route Search Service to provide motorists through the Internet with optimum driving routes within the Hong Kong territory based on distance, toll or travel time. Moreover, useful information such as no-stopping restrictions, pedestrian streets and major public car parks will also be shown for motorists' reference. The above free public enquiry services will be launched to the public in 2009.

Area Traffic Control System

In view of the significant benefits of the Area Traffic Control (ATC) system in optimising the utilisation of road capacity, minimising traffic delay and reducing vehicle emission, the system was expanded to Tai Po and North districts in 2005 and Tuen Mun and Yuen Long districts in 2008. In 2006, we replaced the ATC system on Hong Kong Island with a new state-of-the-art system to enhance performance. Similarly, the replacement of existing ATC system in Kowloon, Sha Tin and Tsuen Wan districts and expansion of the system to Tseung Kwan O have commenced and is expected to complete in 2011.

CIVIL AVIATION

The Airport Authority (AA) and Civil Aviation Department (CAD) have implemented a range of initiatives to safeguard the environment. The former is responsible for the operation and development of the Hong Kong International Airport (HKIA) and the latter is the regulator for civil aviation and provider of air traffic control services.

AA's Corporate Environmental Policy focuses on adopting and encouraging practices that prevent or minimise pollution and maximise energy and natural resource use efficiencies.

Environmental Initiatives

During the year, AA signed the Environmental Protection Department's Carbon Reduction Charter, which requires participants to conduct carbon audits and take concrete steps to reduce greenhouse gas emissions. AA has finished its first carbon audit and is now setting emission-reduction targets.

In addition, AA endorsed the Aviation Industry Commitment to Action on Climate Change, a global initiative to mitigate the industry's environmental impact.

AA's work to save energy, reduce waste and maintain good indoor air quality earned a certificate of merit in the public sector/non-governmental organisation category of the Hong Kong Awards for Environmental Excellence (HKAEE).

Saving Energy

Increasing energy efficiency is a key element in AA's carbon-reduction strategy. Its efforts include optimising the air-conditioning and lighting in Terminal 2 and installing new, energy saving equipment in Terminal 1's chiller and hydraulic systems. In October 2008, these efforts were recognised with a "Class of Excellence" Energywi\$e Label from the Environmental Campaign Committee. AA is increasing the use of energy efficient T5 fluorescent tubes and LED (light-emitting diode) exit signs throughout the airport. Recently, AA has begun trials of LED lights on the centerline and edges of taxiways.

Improving Air Quality

To reduce emissions from its operations, on 1 June 2008 AA introduced a ban on idling vehicles and ground support equipment on the airside of the airport. The airport community was consulted before the ban was implemented and exemptions were granted for some vehicles and equipment based on safety and operational considerations.

AA also conducted trials of bio-diesel made from the 3,000 litres of used cooking oil that are collected at HKIA each month. A mixture of 5% bio-diesel and 95% conventional diesel was found to reduce exhaust smoke by nearly 50% in most vehicles in the trials. AA is now considering the expansion of this programme throughout HKIA, including its 50 diesel-powered vehicles.

In 2006, AA began the phased conversion of its fleet to hybrid, alternative fuel and fuel-efficient vehicles. It now operates seven hybrid and four liquefied petroleum gas-powered vehicles. New environmentally friendly vehicles are being added as existing cars and trucks are retired from service. AA is also encouraging its business partners to replace older airside vehicles with fuel-efficient ones. In future, apron permits will only be given to vehicles that meet stringent fuel efficiency and emission criteria. Most airlines at HKIA use the fixed ground power system, rather than the auxiliary power units on their aircraft. To further reduce emissions, AA is working with the airport community to increase the use of fixed ground power.

During the year, the air inside Terminal 1 and Terminal 2 received a Good Class certificate from the Environmental Protection Department. Terminal 1 was the first non-government building in Hong Kong to receive this rating.

Water and Solid Waste

For the sixth consecutive year, AA received a “Class of Excellence” Wastewi\$e Label in the HKAEE for its efforts to separate and recycle waste collected at the airport. In 2008, AA recovered more than 970 tonnes of waste for reuse and recycling.

In 2007, AA co-founded the Hong Kong Green Purchasing Charter, which encourages businesses to use eco-friendly products. In 2008, AA established a green purchasing policy and bought environmentally friendly office supplies and cleaning products.

During the year, about 1.4 million cubic metres of greywater was treated at the wastewater treatment plant and 136,000 cubic metres of treated wastewater was used to irrigate the airport landscaping.

CAD implemented a series of aircraft noise mitigation measures and closely monitored their implementation. Such measures include noise abatement departure procedures, Continuous Descent Approach procedure to reduce aircraft noise experienced by residents in Sai Kung and Ma On Shan, and use of flight paths over water to avoid overflying residential areas whenever possible.

CAD requires all airlines to adopt the noise abatement departure procedures stipulated by the International Civil Aviation Organization for aircraft departing to the northeast of the airport.

In 2008, CAD recorded that 89.2% of arriving aircraft were able to land from the southwest of HKIA (i.e. over water) between midnight and 7 am; and 98.8% of aircraft departing to the northeast of the airport were able to take the southbound route over the West Lamma Channel between 11 pm and 7 am.

Older and noisier aircraft stipulated in Chapter 2 of Annex 16 Volume I Part II of the Convention on International Civil Aviation are banned from operating at the HKIA. All aircraft operating at the HKIA meet stringent noise standards -

CAD also provides periodic reports on aircraft noise measurements, performance of noise mitigation measures, and means to enhance the noise mitigation measures. Moreover, CAD meets members of the public and maintains a hotline to handle enquiries or complaints on aircraft noise issues.

PORT AND MARITIME SERVICES

The Marine Department (MD), which is responsible for maritime and navigational safety matters within the waters of Hong Kong, has implemented various initiatives to protect and improve the environment -

- MD operates a fleet of patrol vessels to ensure compliance with marine regulations against offences such as littering, illegal transfer or discharge of oil, and smoke emission by ships in Hong Kong waters.
- MD monitors the exhaust of vessels and conducts spot checks on vessels within Hong Kong waters. On receipt of complaint and sufficient evidence of excessive dark smoke emission causing nuisance, MD will initiate prosecution.
- MD adopts performance-based contracts for the scavenging of floating refuse and collection of refuse from ocean-going ships and local vessels to ensure the effectiveness and efficiency of the marine cleansing services.
- MD maintains a Maritime Oil Spill Response Plan to co-ordinate departmental actions for handling oil pollution incidents in Hong Kong waters and continues to fulfill the pledge to respond on site within two hours of reported oil spillage inside harbour limits.

- MD has signed a cooperation arrangement with the port administration of Guangdong, Shenzhen and Macao to adopt the Regional Maritime Oil Spill Response Plan for the Pearl River Estuary.
- MD maintains energy saving plans to minimise energy consumption in the China Ferry Terminal and the Macau Ferry Terminal by economising on the use of lighting and air conditioning.
- MD has adopted green measures on all fronts in the operation of the Government Dockyard, including annual review and upgrading of facilities with environmentally friendly engines, equipment and products, regular air quality checks on indoor worksites and emission measurements for engines installed on government vessels, etc.
- MD implements relevant international conventions on marine pollution prevention through the enactment and enforcement of legislation. These conventions include the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), and the International Convention on Oil Pollution Preparedness Response and Co-operation 1990. These conventions apply to all ships in Hong Kong waters and Hong Kong registered ships anywhere in the world.
- MARPOL 73/78 has six Annexes to prevent or minimise pollution from ship operations in respect of (I) oil; (II) noxious liquid substances; (III) harmful substances in packaged form; (IV) sewage; (V) garbage; and (VI) emissions into the atmosphere. All six Annexes have been extended to Hong Kong Special Administrative Region.
- We also work closely with operators of container terminals, mid-stream and river trade operators to preserve a clean and safe environment for sea transport. We encourage the application of Information Technology (IT) in port operations. For example, MD has established an “Extensible Markup Language Dangerous Goods System” to facilitate the direct system-to-system submission of dangerous goods manifests by shipping operators. As to the provision of e-business service, the Electronic Business System has provided features such as auto-approval for online application, online payment via auto-pay, self-printing of Permits/Certificates, and online enquiry for application status. Port operators have widely adopted the Electronic Data Interchange for exchanging information in day-to-day operation. The above measures

- Container terminal operators have also implemented other measures, such as the use of energy saving equipment, reduction of unnecessary light fittings, installation of grease traps and oil interceptors in workshops and kitchens, engaging specialised contractors to handle waste disposal, and the use of liquefied petroleum gas shuttle buses to reduce air pollution.
- The Ecology Study on northern Lantau was completed in late 2007, which indicates that large scale reclamation required for the development of a container terminal thereat would cause habitat loss for Chinese White Dolphins. Given the ecological concern, the Government is studying the alternative southwest Tsing Yi site for the development of Container Terminal 10.
- We recognise that the protection of the marine environment is not only important in its own right but also instrumental in enhancing Hong Kong's position as a world-class port. In the course of port planning and development, we will continue to work with EPD and the Sustainable Development Unit to comply with relevant environmental impacts and sustainability assessment requirements.

LOGISTICS

A detailed feasibility study commissioned for the Lantau Logistics Park is underway. The study aims to ensure compliance with the relevant statutory environmental impact and sustainability assessment requirements.

We encourage the use of paperless exchange of information in the logistics industry through the promotion of wider use of IT along the supply chain. For example, the On-board Trucker Information System (OBTIS) pilot study was launched in 2007. OBTIS provides an information and technology platform for enhanced efficiency in fleet management and better communication between truckers and stakeholders of the supply chain.

GREEN OFFICE MANAGEMENT

MANAGING PAPER AND ENERGY CONSUMPTION

It is our mission to improve and conserve our environment, and to optimise the use of resources to reduce pollution and waste. We strive to implement various green housekeeping measures in daily office operations with a view to maintaining a green workplace. Our main focus of the green office management is on reducing paper and energy consumption.

With the advocacy of environmental conservation over the past few years, staff awareness in this respect has been highly enhanced and staff members have developed good practices by adopting of the following green initiatives -

On Paper Consumption

- to use recycled paper in office operations;
- to print and photocopy on both sides of paper;
- to reuse single-side used paper for drafting, printing and receiving fax;
- to reuse envelopes and loose minute jackets for internal transmission of documents and correspondence;
- to communicate and disseminate information by electronic means within bureaux/departments as well as with members of the public;
- to avoid printing or photocopying documents unless hard copy is absolutely necessary;
- to distribute softcopies by emails, diskettes or CD-ROMs instead of print-outs; and
- to upload reports, circulars and other publicity materials on e-bulletin board, intranet and internet website for general reference.

□ ***On Energy Consumption***

- to turn off some lighting when the occupancy is low, e.g. during lunch and after office hours;
- to switch off unnecessary lighting in public communal areas, such as reception counters, corridors, lift lobbies, etc., during lunch and after normal office hours;
- to reduce the use of high power incandescent lamps;
- to switch on air-conditioning for pre-cooling no earlier than 15 minutes before conference rooms are to be occupied and switch off as soon as the room is unoccupied;
- to activate the standby mode or hibernation mode features of personal computers;
- to switch off personal computers (including both monitor and computer processing unit) after office hours;
- to switch off non-essential servers at night, on Saturday and public holidays;
- to appoint energy wardens and assign last-man-out to check the effectiveness of energy saving measures; and
- to encourage staff to walk up or down one or two storeys rather than using the lift.

GREEN PURCHASING

“Green” stationery items supplied by the Government Logistics Department, such as clutch pencils, refillable ball pens, recycled pencils and furniture made of chip board, are now widely used in THB. Other green items e.g. recyclable laser printer toner cartridges and box files made of recycled paper are also ordered from contractors for office use.

It has all along been our practice to purchase only office equipment such as photocopiers and printers with Energy Efficiency label. We also use e-tender whenever applicable.

STAFF AWARENESS

The support and cooperation of from staff members are always the key to the success of our green office management. For the years to come, we will continue to work closely with our staff with a view to fostering a green culture and ensuring that our offices operate in an environmentally responsible manner.

VIEWS AND SUGGESTIONS

If you have any views and suggestions in connection with this Environmental Report, you are welcome to contact us via email at thbenq@thb.gov.hk or by fax on 2868 4643 or write to us at 15/F., Murray Building, Garden Road, Central, Hong Kong.