

Marine Department Environmental Report 2007

Table of Contents

[Director's Message](#)

[Responsibilities and Organizational Structure](#)

[Environmental Goal](#)

[Work Focuses](#)

[Environmental Performance in 2007](#)

(a) [Proactive Port Control](#)

(b) [Efficient Marine Refuse Cleansing Services](#)

(c) [Preparedness in Dealing with Oil Spills](#)

(d) [International Conventions and Local Legislation](#)

(e) [Green Initiatives at Terminals, Public Cargo Working Areas and Lighthouses](#)

(f) [Going Green at the Government Dockyard](#)

(g) [E-Communication with Customers](#)

(h) [In-house Green Programmes](#)

[Performance under the Clean Air Charter](#)

(a) [Management Commitments and Environmental Targets](#)

(b) [Achievements in 2007](#)

[Environmental Targets for 2008](#)

[Information and Suggestions](#)

Annex I [Paper Consumption \(A4\)](#)

Annex II [Electricity Consumption](#)

.....

Director's Message

The Marine Department is responsible for maritime and navigational safety matters within the waters of Hong Kong. The Department pledges its full support of marine pollution prevention as marine environmental protection is important not only in its own right but also in enhancing Hong Kong's role as one of the major ports in the world.

Hong Kong, an Associate Member of the International Maritime Organization, is obliged to ensure that all ships within Hong Kong waters comply with all applicable international standards with regard to marine pollution prevention.

In 2007, the Department continued to promote an environmentally responsible management and contribute to a greener environment by pursuing environmentally friendly operations. Phase 2 of the Department's Electronic Business System which provides a channel for submitting and handling port formality documents electronically, was vigorously developed during the year with the launch date on 28 April 2008. Furthermore, the Department has reached out to train up volunteers in reporting cases of excessive smoke emission from vessels within Hong Kong waters so that remedial action can be taken promptly to reduce the hazards to the environment.

To show the Department's support for the Clean Air Charter and our commitment to improve the air quality, the Government Fleet and Dockyard Environment Management System Committee was set up in July 2007 to ensure that sustainable efforts were made to reduce the emission of the government-run vessels.

I am pleased to see many of our green initiatives have achieved good results and are well received by our staff and the marine industry. I take this opportunity to thank my staff members for their efforts in 2007. The Department undertakes to continue working hand in hand with the community to support the clean-air initiatives and also a greener Hong Kong.

(Roger Tupper, JP)
Director of Marine

[Back to Top](#)



Responsibilities and Organizational Structure

In this report, we will focus on the key areas we worked in 2007 to help improve the environment and the direct environmental impact of our day-to-day departmental activities.

This report is primarily intended for Hong Kong citizens, our various business partners, other government departments, our own staff and other local and international maritime organizations.

Overview of the Department

The Marine Department, headed by the Director of Marine, is responsible for all navigational matters in Hong Kong and the safety standards of all classes and types of vessels. Our mission is "We are one in promoting excellence in marine services".

Staffed by well-qualified and experienced professional and technical officers, we provide a wide spectrum of services which can be broadly classified into five areas, each of which is headed by an Assistant Director:

- Government Fleet
- Multi-lateral Policy
- Planning and Services
- Port Control
- Shipping

The Administration Branch in the Department's Headquarters provides administrative support services, human resource management, and finance and accounting support to the operational divisions.

Our Headquarters are located at Harbour Building, 38 Pier Road, Central. Other major venues include the Government Dockyard at Stonecutters Island, the Macau Ferry Terminal at Sheung Wan, the China Ferry Terminal at Tsimshatsui and eight Public Cargo Working Areas in different locations.

Green Management Structure

To promote an environmentally responsible management and enhance green management practice in the Department, the Departmental Secretary and the Assistant Departmental Secretary/Committee and

General have been appointed as the Green Manager and the Green Executive respectively.

For all environmental protection matters at a divisional level, the respective Assistant Directors formulate their own green objectives, targets and measures based on the nature of their business. Divisional Environmental Protection Representatives at the senior professional level have been appointed to take up the role of coordinator in related matters. For example, these representatives will co-ordinate and prepare divisional inputs for compiling the annual departmental Environmental Report.

[Back to Top](#)



Environmental Goal

To promote excellence in marine services, we are committed to ensuring that our services and operations are conducted in an environmentally friendly and responsible manner conducive to a cleaner port of Hong Kong.

[Back to Top](#)



Work Focuses

Our environmental work focuses on the following areas:

- (i) tightening the management and control of the movement of dangerous goods in Hong Kong waters;
- (ii) improving our refuse collection and scavenging services;

- (iii) maintaining a world class maritime oil pollution contingency planning arrangement to combat oil spills;
- (iv) stepping up prosecutions against offences of marine littering and pollution;
- (v) recommending environmentally friendly seawall designs with wave-absorbing capability in relevant development projects;
- (vi) implementing international conventions on marine pollution prevention and enforcing relevant environmental legislation on vessels;
- (vii) employing effective management systems to achieve energy savings for operations at the Department's ferry terminals, public cargo working areas and the Government Dockyard;
- (viii) adopting environmentally friendly and efficient designs for facilities and work processes in the Government Dockyard;
- (ix) observing the Government's Green Management Policy in our own workplaces to ensure efficient use of natural resources and energy;
- (x) recommending a proper Marine Traffic Impact Assessment be conducted for every major development project to adequately address all potential marine impacts at each stage of the project implementation. This will not only ensure marine traffic safety in Hong Kong waters but also bring long-term benefit to the environment; and
- (xi) implementing plans and measures that are relevant to our operations for fulfilling the commitments under the Clean Air Charter.

[Back to Top](#)



Environmental Performance in 2007

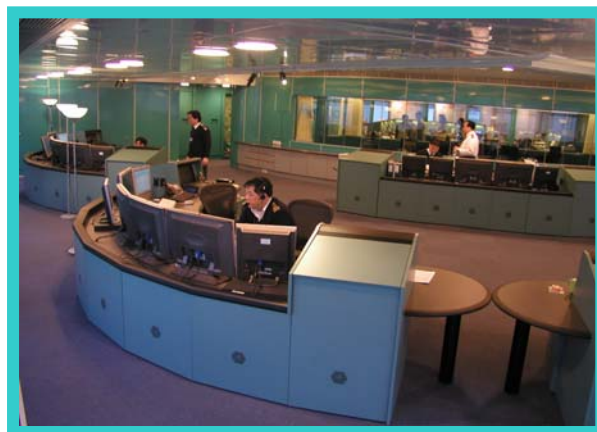
The measures and performance relevant to environmental protection in 2007 are as follows:

(a) Proactive Port Control

Vessel Traffic Services

One of the objectives of the Hong Kong Vessel Traffic Services is to protect the fragile marine environment from being polluted by oil or chemicals as a result of marine accidents. The services are provided by our Vessel Traffic Centre (VTC), which monitors the movement of vessels within Hong Kong waters round the clock through an advance vessel traffic surveillance system. It provides real-time monitoring and electronic chart display (ECDIS) system enabling full assessment on the overall traffic situation in the area so that appropriate traffic information or advice can be given to navigators to assist onboard decision to be made and timely substantial actions to be taken to avoid collision or grounding. In Kwai Chung Container Terminal Basin, the busy vessel traffic is closely monitored by a marine traffic control station, which further enhances the efficiency of marine traffic management.

For long-term strategy, VTC will keep abreast of the latest development on the vessel traffic services system including the trend on e-navigation and prepare for adopting the latest technology on the application of the Automatic Identification System.



The Vessel Traffic Centre located inside the Macau Ferry Terminal

Harbour Patrol

The Harbour Patrol Section (HPS) operates a fleet of 22 patrol launches to ensure that vessels are in compliance with marine regulations when navigating in Hong Kong waters. For marine pollution prevention, patrol officers regularly take prosecution actions against offenders found littering in Hong Kong waters. In 2007, we issued a total of 78 Fixed Penalty Notices to persons who had committed the offence of marine littering.

HPS officers frequently inspect tankers and oil barges to ensure that they operate and/or are stationed only in designated areas. During these inspections, HPS officers would advise tanker and oil barge operators to strictly follow the code of practice and make sure no illegal transfer or discharge of oil would take place in Hong Kong waters. Under the Shipping and Port Control Ordinance (Cap. 313) and the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the owner and master of the vessel or any person who discharges oil from a vessel commits an offence.

In addition, HPS officers keep a close surveillance for any dilapidated vessels or wrecks during their normal patrol. Decomposition of these vessels or wrecks may release harmful substances, which would cause damage to the environment. Similarly, leakage of lubrication/fuel oil residue in dilapidated vessels or wrecks may also cause pollution to Hong Kong waters. In 2007, 29 dilapidated vessels and wrecks were removed for proper disposal.

Smoke Emission Control

In 2007, HPS launched a series of operations around Hong Kong waters to monitor vessels' dark smoke emission. Vessels' exhaust emission was measured by the Ringelmann Chart. A total of 64 advisory letters and 3 warning letters were issued to the owners/masters of vessels which emitted dark smoke on level 1-2 and level 2-3 on the Ringelmann Chart respectively. The owners/masters of these vessels were required to take remedial actions in order to improve the vessels exhaust emission.

In addition, 4 vessels reported to have emitted smoke were found substantiated and prosecutions were instigated against the masters of these vessels.

A Smoky Vessels Spotter Cadre Scheme was formally launched in November 2007. Volunteers were trained up to assist the Department in the detection of excessive smoke emission from vessels within Hong Kong waters. HPS has received 3 reports from these trained spotters since the launching of the scheme and prosecution action has been taken accordingly.

Dangerous Goods Control

The carriage of dangerous goods at sea is governed by the Dangerous Goods (Shipping) Regulations (Cap. 295C) and the Merchant Shipping (Safety) (Dangerous Goods and Marine Pollutants) Regulation (Cap. 413H). The Dangerous Goods and Project Section carries out random checks on vessels for conveying dangerous goods in Hong Kong waters. In 2007, a total of 350 vessels were inspected by the Inspection Team of the Section.

In July 2007, there was chemical leakage from a container on board a vessel which berthed at Kwai Chung Container Terminal. The incident had not caused any significant environmental impact or serious injury, and was satisfactorily dealt with by applying foam to the container and its surrounding area. To further improve the inter-departmental cooperation in the handling of such incident having the risk of marine pollution, meetings had been held among the relevant stakeholders to strengthen the communication channel amongst the emergency centres of various government departments.



Monitoring the unloading of Class 1 Dangerous Goods (Fireworks) at Hong Kong Disneyland Service Pier

Fireworks are delivered to the Hong Kong Disneyland via sea route on a bi-weekly basis. To ensure safety of the vessel and the personnel involved in the transportation as well as to preserve the marine environment, our staff have been conducting inspections to all vessels transporting Class 1 dangerous goods (Fireworks) to the Hong Kong Disneyland.

(b) Efficient Marine Refuse Cleansing Services

Floating refuse, being the most visible evidence of pollution in the harbour, is difficult to clear because it drifts with current and wind. The Department is determined to keep the harbour clean by engaging effective and efficient marine refuse cleansing services.

As a result of our continued efforts, the total volume of marine refuse scavenged and collected in 2007 amounted to 16 550 tonnes. This represented an increase of 2.1% compared with that in the previous year.

Contracting out Marine Refuse Cleansing Services

To improve the overall efficiency and effectiveness of its marine cleansing services, the Department has, on the basis of a comprehensive review on the overall refuse collection service, implemented a reformed contract management system since July 2005. The system includes:

- ✧ full adoption of the performance-based approach for service provision;
- ✧ a relatively long contract period of five years;
- ✧ inclusion of services previously carried out by government staff and vessels in the outsourcing arrangements;
- ✧ consolidation of all the fragmented marine cleansing services into three contracts;
- ✧ provision of the Department's stockpile of oil pollution cleansing equipment for the use of the contractor; and
- ✧ devolution of the responsibilities of manning, operating and maintaining the Department's six purpose-built marine refuse scavenging vessels to the contractor.

Since the implementation of the new contracts, the Marine Department has reorganized the overall cleansing arrangements and engaged a fleet of some 70 contractors' vessels to deliver the services.

We will continue to closely monitor the reformed outsourcing arrangements, and work with the contractors to explore ways and means to further improve operational efficiency and cost effectiveness.

In addition to routine cleansing activities, we have contributed our efforts in the following areas:

- ✧ stepping up prosecutions;
- ✧ strengthening public education;
- ✧ enhancing publicity programme, and
- ✧ conducting intensive cleansing programme for identified areas.

In collaboration with private sector organizations, promotional activities have been carried out with a view to improving cleanliness of Hong Kong waters. These include beach cleanup and the development of semi-mechanised refuse scavenging vessels for sea surface cleansing in collaboration with the contractor.

We have also set up a special taskforce to help cleaning beaches and coastlines by participating in joint operations with other government departments.

(c) Preparedness in Dealing with Oil Spills

Maritime Oil Spill Response Plan

Hong Kong waters are susceptible to oil spill damage, owing to its closeness to congested waterways. Oil spills can play havoc on our maritime environment and economy. Oil spills from ships can be easily washed ashore causing irreparable environmental damage. In this regard, we have developed an effective Maritime Oil Spill Response Plan to co-ordinate departmental actions to tackle oil pollution incidents in Hong Kong waters. The Pollution Control Unit of the Department is on 24-hour standby and its target is to respond on site within two hours of reported oil spillage inside harbour limits. This pledge was 100% achieved in 2007.

In addition to providing regular anti-oil pollution training to our staff, we held a large-scale oil pollution combating exercise in October 2007 to test and practise the preparedness of government departments and the oil industry under the Marine Oil Spill Response Plan.



Annual Anti-Oil Pollution Exercise 2007

Regional Maritime Oil Spill Response Plan

A Regional Maritime Oil Spill Response Plan for the Pearl River Estuary has been developed jointly with port administrations of Guangdong, Shenzhen, Macau and Hong Kong. The Plan is to enhance regional cooperation in the provision of oil combating equipment and expertise for handling major oil spills in the Zhujiang Kou (Pearl River Delta) areas and Mirs Bay.

We have established an effective communication channel with the neighbouring port administrations to exchange information, views and experience in dealing with oil spill incidents.

(d) International Conventions and Local Legislation

The Department represents the Hong Kong Special Administrative Region (HKSAR) at the International Maritime Organization (IMO), a United Nation specialized agency responsible for safety and security of international shipping as well as prevention of pollution of the environment from ships.

The HKSAR is committed to implementing the MARPOL 73/78 (The International Convention on the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978 thereto), which is the principal international convention to prevent or minimize pollution to the environment due to ship operations. The Convention has six Annexes aiming to address pollution to the environment in respect of (i) oil; (ii) noxious liquid substances; (iii) packaged form harmful substances; (iv) sewage; (v) garbage and (vi) emissions into the atmosphere. After the extension of Annex VI to the HKSAR on 1 June 2008, all the Annexes are applicable to Hong Kong ships wherever they are and to all ships whilst they are in Hong Kong waters.

The International Convention on the Control of Harmful Anti-fouling Systems on Ships will come into force globally on 17 September 2008. This Convention prohibits the use of harmful organotins in anti-fouling paints on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems. Local legislation is being prepared to give effect to this new Convention.

Besides the foregoing, the Department is also participating in the development work at IMO concerning management of ballast water and ship recycling to minimize their impact to the environment.

Port State Control

The Port State Control (PSC) Section carries out inspections on about 15% of foreign ocean going ships entering Hong Kong waters each year under our commitment with the Toyko Memorandum of Understanding.

The PSC inspections help prevent sub-standard ships from proceeding to sea by securing their compliance with the relevant convention provisions in safeguarding the safety of crew, passengers and ships, and prevention of pollution.

In 2007, 668 foreign ships entering Hong Kong waters were inspected, out of which 118 deficiencies related to pollution prevention were

found and 5 ships were detained due to serious contraventions with MARPOL requirements.

(e) Green Initiatives at Terminals, Public Cargo Working Areas and Lighthouses

Terminals

Energy saving is the focus of the environmental initiatives being pursued at the Macau Ferry Terminal and the China Ferry Terminal. A structured energy saving plan has been introduced to cut down energy consumption in the two terminals through reducing unnecessary lighting and scheduling the operations of escalators and travelators on a need basis. Green measures adopted in 2007 included replacement of deteriorated and inefficient components, such as centrifugal chillers and variable air volume boxes, of the air-conditioning systems in the two terminals. In compliance with a service-wide green initiative of the Government, the indoor temperature of both terminals has been set at 25.5°C.

In addition, reflective cellulose layers have been added on the glass curtain-walls along the fly-over bridges in the Macau Ferry Terminal as a heat insulation agent with a view to reducing the demand for air-conditioning supply and power consumption. Similar measures may be introduced to other venues of the Department.

Public Cargo Working Areas (PCWAs)

To lower power consumption, floodlights at PCWAs were adjusted and reduced to suit actual needs after operating hours. E-communication was encouraged and enhanced by introducing the use of Lotus Notes in all PCWAs.

Lighthouses

Wind-generated electricity supply by using a vertical-axis generator has been introduced at the Cape D'Aguiar lighthouse on a trial basis since November 2006. Owing to the fluctuating nature of wind sources at the concerned lighthouse, we have to employ a hybrid system, i.e. by using a number of solar panels in addition to the wind generator, to provide the green energy as a supplement.

(f) Going Green at the Government Dockyard

The Government Fleet Division (GFD) is responsible for the overall management of government vessels. The GFD's main activities include operating its crewed fleet, providing marine transport services to government departments, performing new vessels procurement and maintenance of government vessels. The Government Dockyard (GD) at Stonecutters Island is the GFD's operational base for operation of its crewed fleet and maintenance of government vessels. The projected expenditure on the management of the government fleet in 2007-08 is \$378.1 million. At the end of 2007, the government fleet was made up of 744 government vessels of different types and sizes.



Renovated GD Administration Building Lift Lobby and Entrance

Going green is the long-term commitment of the GFD. Over the past years, many initiatives have germinated at all fronts in the operation of the GD. They appear in the yards, in the offices, to its people, on new ships and in maintenance operations.



Green Plantation at Dockyard Areas

The following measures have been completed/implemented in 2007 for environmental protection in the GFD's operations:

- (i) the steel racks in the cover sheds have been fabricated and erected for the storage of welding gas cylinders;
- (ii) the amount of paints stowed in covered sheds by contractors has been controlled;
- (iii) the office for technical inspectors and a series of functional rooms in the Administration Building have been renovated to improve workplace environment;
- (iv) the air ventilation system of the main lobby of the Administration Building has been improved and its lightings have been replaced with energy saving appliances; and
- (v) the exhaust gas extraction system for the outboard engine testing tanks in the open yard has been improved and modified to remove exhaust gases emitted from the site during testing.

Green Shipyard

With a view to protecting the environment of the shipyard and work premises and preserving the ecological environment in the basin, the GD reviews its facilities and upgrades them with environmentally friendly products every year. Over the years, the following special purpose equipment and systems have been installed in the GD for

improving/protecting the environment:

- (i) an odour treatment and air disinfection system has been installed in the fire extinguisher workshop to treat odorous gases emitted from chemicals;
- (ii) an exhaust gas extraction system has been installed in the engines testing yard to remove exhaust gases emitted during engines testing operation;
- (iii) a drainage system is used to collect water discharged from hull washing of vessels in the covered shed for settling heavy particles and sediments before the waste water is discharged to the nearby treatment plant. The hull washing water is sampled and tested at intervals to ensure that the waste water complies with the required standard;
- (iv) useful parts and components are recovered from disposed engines and equipment for re-use;
- (v) the timber fenders alongside the seawall have been replaced with rubber fenders since 2004. The new rubber fenders are more durable and shock absorbent, more resistant to corrossions and less susceptible to wear and tear during berthing operations, thus attaining much longer life spans with less maintenance and fewer replacement than the conventional timber fenders; and
- (vi) a video player system has been installed in the Industrial Safety Section so that educational video tapes/programmes are played regularly in the public TV system to promote the awareness of staff members and contractors' workers in environmental protection.



Replacement of the Aged High Bay Flood Lights with Energy-saving Fluorescent Lighting System in the De-greasing Workshop

Green Government Fleet

(i) Green New Vessels

As early as 2000, some new government vessels had already adopted and been delivered with environmentally friendly diesel engines (over 130kW). Since 2001, all new vessels procured are ensured to comply with all applicable regulations relating to environmental protection and oil pollution prevention, including the installation of environmentally friendly diesel engines and refrigerants. Furthermore, when evaluating tender submissions, a marking scheme is used to check how well the submitted proposals comply with the necessary green requirements. Higher score points are given to proposals that use environmentally friendly products.

(ii) Existing Vessels

It is the Government's policy since 2001 to use ultra low sulphur diesel fuel oil and tributyltin (TBT) free antifouling paint for all its vessels with a view to reducing the sulphur dioxide emission in the engine exhaust and minimizing harm to marine creatures. Since 2002, the operating staff of vessels manned by the Department have been advised to operate GF vessels at safe speed below the maximum while en-route

to routine operational duties with a view to reducing fuel oil consumption and emission. Our records show that the fuel consumption has been reduced gradually over the years as a result of our continuous efforts.



Exhaust Gas Extraction System to Remove Exhaust Gases Emitted during Engine Testing Operations



New Safety Slogan Displayed on Workshop Building

(g) E-Communication with Customers

Riding on the infrastructure built in Phase 1 of the Department's Electronic Business System (eBS) launched in December 2003, Phase 2 of the eBS providing a total e-business solution for port formalities documents and public services was vigorously developed in 2007 with the launch date on 28 April 2008. The eBS would not only save the shipping community's resources and operating costs involved in preparing paper applications and submitting the applications in person, but also contribute to paper saving and therefore a greener environment.

(h) In-house Green Programmes

We are committed to the Government's Green Management Policy in our daily operations at the offices to ensure efficient use of natural resources and energy. We follow and advocate the principle of "Reduce, Reuse, Recycle and Replace" in the consumption of materials.

E-Notices and Circulars

In 2007, the Department continued to reap the benefits of the Wide Area Network by disseminating information among staff members through the Departmental Portal, Intranet and departmental website and minimizing the circulation of hardcopies. With the aid of the advanced email systems, email has become the primary means of communication in the Department's daily operation.

Energy Warden Scheme

The Energy Warden Scheme, which was launched in August 2005, continued to operate in 2007. The Energy Wardens conducted regular green inspections of the Department's workplace to ensure staff's compliance with the Department's energy saving measures and also monitored implementation of other green housekeeping initiatives (e.g. paper and waste reduction).

Setting of Indoor Room Temperature at 25.5°C in Summer Months

All office heads were required to ensure that the indoor room temperature of all the premises of the Department should be set at 25.5°C in summer months to reduce energy consumption. Request for variation from the recommended temperature would be considered on the basis of operational need.

Reduction of Hard Copies of Publications

The need for production of printed copies of our periodical publications is being reviewed regularly. Production of hard copies of the Department's Environmental Report and Performance Pledge has ceased and they are now published as e-version on the Department's website.

Paper and Energy Savings

Reduction of paper and energy consumption continued to be two of the key green measures monitored by the Green Housekeeping Working Group. In 2007, we succeeded in reducing paper consumption by 14.4% and energy consumption by 5.9% when compared with 2002. However, when compared with 2006, energy consumption has slightly increased by 1.1%. because of the rising energy requirement of the Macau Ferry Terminal where the number of passengers increased from 12,600,000 in 2006 to 14,400,000 in 2007 (around 14%). Detailed paper and energy consumption figures for the period between 2002 and 2007 are provided at [Annexes I](#) and [II](#).

Use of Recycled Paper

We continued to appeal to our staff to use more recycled paper instead of virgin paper. In 2007, over 73% of the A4 paper used by the Department was recycled paper.

Disposal of Empty Toners/Inkjet Cartridges for Printers

The green initiative to collect empty toners and inkjet cartridges of computer printers for re-cycling through public auctions, which was introduced in 2006, continued to operate in 2007.

Provision of Three-coloured Recycled Bins

Three-coloured recycled bins have been placed in the Macau Ferry Terminal and the China Ferry Terminal and the Department's Headquarters at Harbour Building for collecting paper wastes, plastic bottles and aluminum cans. Similar arrangements will be extended to other out-station offices by including the provision of three-coloured recycled bins and the collection of recyclable wastes in the specifications of the cleaning contracts to be issued in future.

E-Christmas Card

The Department has been sending out electronic greeting cards since 2001 to reduce paper consumption.

Adjusting the Illumination Level in Offices

Over 370 fluorescent tubes have been removed in the offices in the Department's Headquarters where the lux level has exceeded the standard. This measure will be implemented in the Department's other offices where applicable.

Phasing-out of Paper Salary Statements

Paper salary statements have been phased out in 2007 to promote e-government and save paper.

[Back to Top](#)



Performance under the Clean Air Charter

The HKSAR Government endorsed the Clean Air Charter (the Charter) in 2006, an initiative led by the business sector aiming to engage the whole community to improve air quality. As a signatory, the Government is committed to implementing appropriate measures to control, monitor and report air emissions from all sources, including vehicles and vessels, and to reduce energy consumption related to its activities. The Department, which is responsible for providing government fleet services for other government departments, has taken various initiatives to achieve the targets regarding vessels emission under the Clean Air Charter. Hereunder is a summary on the actions we have taken in 2007.

(a) Management Commitments and Environmental Targets

The Government Fleet and Dockyard Environment Management System Committee (GFDEMSC) was set up in July 2007 to establish, manage and implement green measures to reduce air emission, in particular from the government-run vessels.

With an aim to reducing air emission, the following objectives and targets were initially set by GFDEMSC:

- reduce electricity consumption in the offices by 0.5% or more annually for the GD;
- maintain good indoor air quality in the offices and working environment;
- procure more environmentally friendly vessels when placing orders for new vessels or replacement of existing vessels;
- use ultra low sulphur fuel for vessels/vehicles available in the market;
- replace older engines on existing vessels by environmentally friendly models; and
- ensure that the GD and government fleet operations and facilities meet the international emission standard and all legal requirements in Hong Kong by adopting the prevailing best

practice.

(b) Achievements in 2007

The GD and government fleet operations have observed and complied with all the applicable local and international ordinances/regulations related to emissions.

In 2007, the following achievements have been accomplished:-

- green plantation areas in the GD were increased and new trees were planted to absorb carbon dioxide;
- we took delivery of 14 new vessels (excluding small boats with engine power less than 130kW) all installed with low-NO_x engines, maintenance-free batteries and environmentally friendly refrigerants;
- procurement policy has been set to phase out diesel main engines and generator engines (over 130kW) of pre-Marpol Annex VI requirements installed on government vessels and replace with Marpol compliance types in phases;
- for the 44 government vessels under our purview, about 2,271,450 litres of ultra-low sulphur diesel and 77,050 litres of unleaded ultra-low sulphur petrol have been consumed. The corresponding emissions of NO_x, RSP and SO₂ were about 115,390, 4,670 and 200kg respectively;
- the aged and deteriorated chiller plant in the Main Store Building and the air-handling units in the Launch Crew Building in GD have been replaced by energy saving and environmentally friendly equipment;
- the aged high bay flood lights in the de-greasing workshop have been replaced by an energy saving fluorescent lighting system; and
- the deteriorated water piping and compressed air piping have been replaced to eliminate the leakage and reduce energy consumption.

[Back to Top](#)

.....

Environmental Targets for 2008

To make our service and workplace environmentally friendly and responsible as well as to protect the natural resources of the world, we WILL:

- continue to strive our best to prevent and fight against all forms of marine pollution, such as marine refuse, oil spill, smoke emission etc.;
- continue to replace the sea wall fenders with rubber ones. The new rubber fenders are more durable and shock absorbent, more resistant to corrosions and attaining much longer life span with less maintenance and replacement than the conventional timber fenders;
- renovate the carpentry/mechanical fitting workplaces, welding/fabrication covered sheds, and crew showering/changing rooms to improve workplace environment;
- continue to encourage our staff and appeal for their greater support for adopting more green measures and participating more in green activities initiated by the Department or the community; and
- continue to explore new means and pay particular attention to a wider use of electronic measures to minimize the usage of paper and energy.

Furthermore, to fulfill our commitments under the Clean Air Charter, we WILL:

- further increase green plantations in the GD by phases;

- continue to implement energy saving measures with an aim to reducing energy consumption by 0.5% or more in the GD;
- continue to replace diesel main engines and generator engines (over 130 kW) of pre-Marpol Annex VI requirements installed on government vessels by compliance types;
- upgrade the GD's dynamometer testing facilities including the installation of engine exhaust gas testing equipment to check and report the performance of certain overhauled marine diesel engines and their exhaust emission;
- test the overhauled diesel main engines and generator engines (over 130 kW) installed on government vessels and delivered after 2001 to ensure that emission of exhaust gases is within the required acceptable limits;
- initiate actions to seek funding to install solar energy system to generate electricity for the Guard House and the Administration Building and solar energy hot water system for the Fleet Operation Building in the GD;
- encourage user departments to use solar energy for their new government vessels where possible;
- trial run the real time remote monitoring of vessels' engine revolutions per minute (rpm) to ensure that vessels are operated at more fuel-efficient conditions; and
- review vessels' operational profile and urge all user departments to operate at the optimal conditions as far as practicable to reduce fuel consumption.

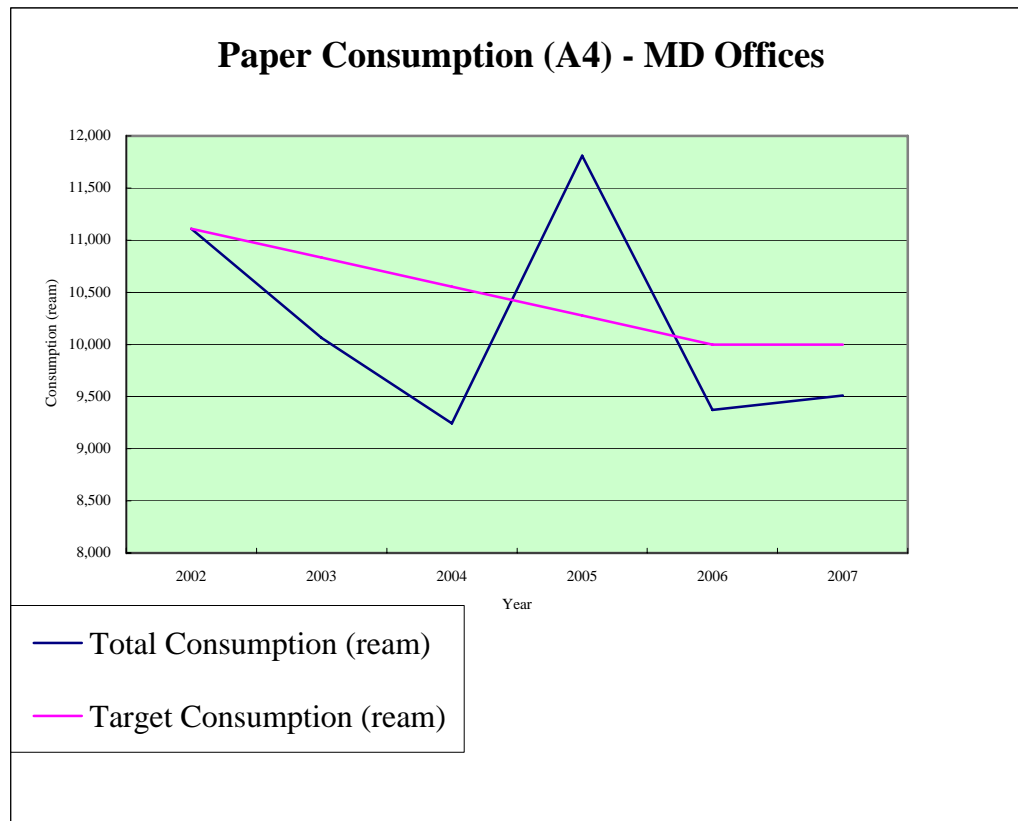
[Back to Top](#)



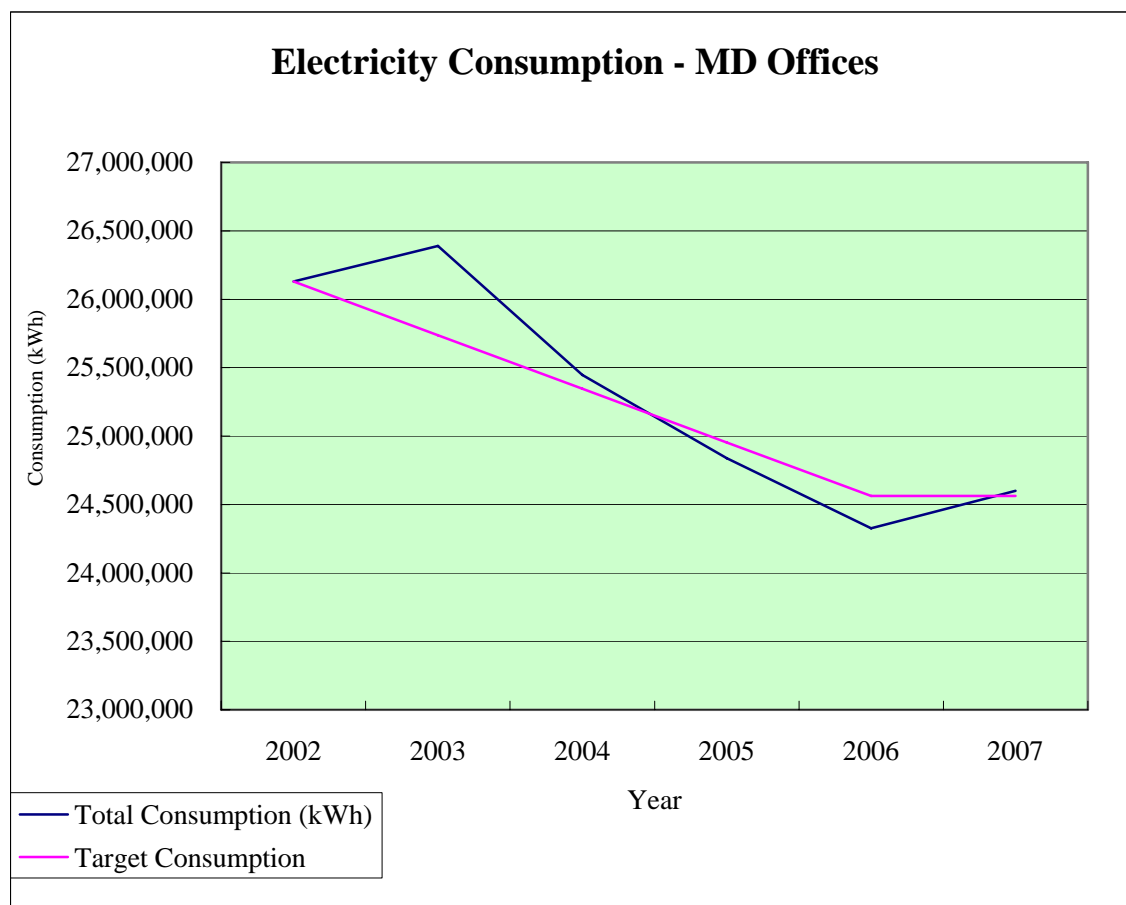
Information and Suggestions

We encourage knowledge and experience sharing with the relevant stakeholders and aim to raise awareness on environmental issues. If you have any enquiries or suggestions, please write to our Green Manager (Departmental Secretary) at Marine Department, 22/F, Harbour Building, 38 Pier Road, Hong Kong. You may also get in touch with us by e-mail at mdenquiry@mardep.gov.hk or by fax on 2541 7194.

[Back to Top](#)



Year	Total Consumption (ream)	Target Consumption (ream)	Target	+/- % (compared to 2002)
2002	11,110	11,110	-	-
2003	10,062	10,832	-2.5%	-9.4%
2004	9,242	10,555	-5.0%	-16.8%
2005	11,809	10,277	-7.5%	6.3%
2006	9,371	9,999	-10.0%	-15.7%
2007	9,511	9,999	-10.0%	-14.4%



Year	Total Consumption (kWh)	Target Consumption (kWh)	Target	+/- % (compared to 2002)
2002	26,129,757	26,129,757	-	-
2003	26,389,731	25,737,811	-1.5%	1.0%
2004	25,445,750	25,345,864	-3.0%	-2.6%
2005	24,839,533	24,953,918	-4.5%	-4.9%
2006	24,326,296	24,561,972	-6.0%	-6.9%
2007	24,599,278	24,561,972	-6.0%	-5.9%