

Marine Department Environmental Report 2008

Table of Contents

- (A) [Director's Message](#)
 - (B) [Responsibilities and Organizational Structure](#)
 - (C) [Environmental Goal](#)
 - (D) [Work Focuses](#)
 - (E) [Environmental Performance in 2008](#)
 - (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 Government Dockyard](#)
 - (g) [E-Communication with Customers](#)
 - (h) [In-house Green Programmes](#)
 - (F) [Performance under Clean Air Charter](#)
 - (a) [Management Commitments and Environmental Targets](#)
 - (b) [Achievements in 2008](#)
 - (G) [Environmental Targets for 2009](#)
 - (H) [Information and Suggestions](#)
-
- Annex I** [Paper Consumption \(A4\)](#)
 - Annex II** [Electricity Consumption](#)

(A) Director's Message

The Marine Department (MD) is responsible for maritime and navigational safety matters within the waters of Hong Kong. MD pledges its full support to 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 2008, MD continued to promote an environmentally responsible management and contribute to a greener environment by pursuing environmentally friendly operations. Phase 2 of MD's Electronic Business System which provides a channel for submitting and handling port formality documents electronically was launched in April 2008. More than 200 users have registered for the system in less than a year. Furthermore, MD 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, we have made sustainable efforts in reducing the emission of the government fleet and monitoring closely the exhaust gas emitted from the 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 2008. MD 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](#)



(B) Responsibilities and Organizational Structure

In this report, we will focus on the key areas we worked in 2008 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

MD, 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 HK-Macau Ferry Terminal at Sheung Wan, the China Ferry Terminal at Tsim Sha Tsui and eight Public Cargo Working Areas in scattered locations.

Green Management Structure

To promote an environmentally responsible management and enhance green management practice in MD, 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](#)

(C) 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](#)

(D) 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 plan 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](#)



(E) Environmental Performance in 2008

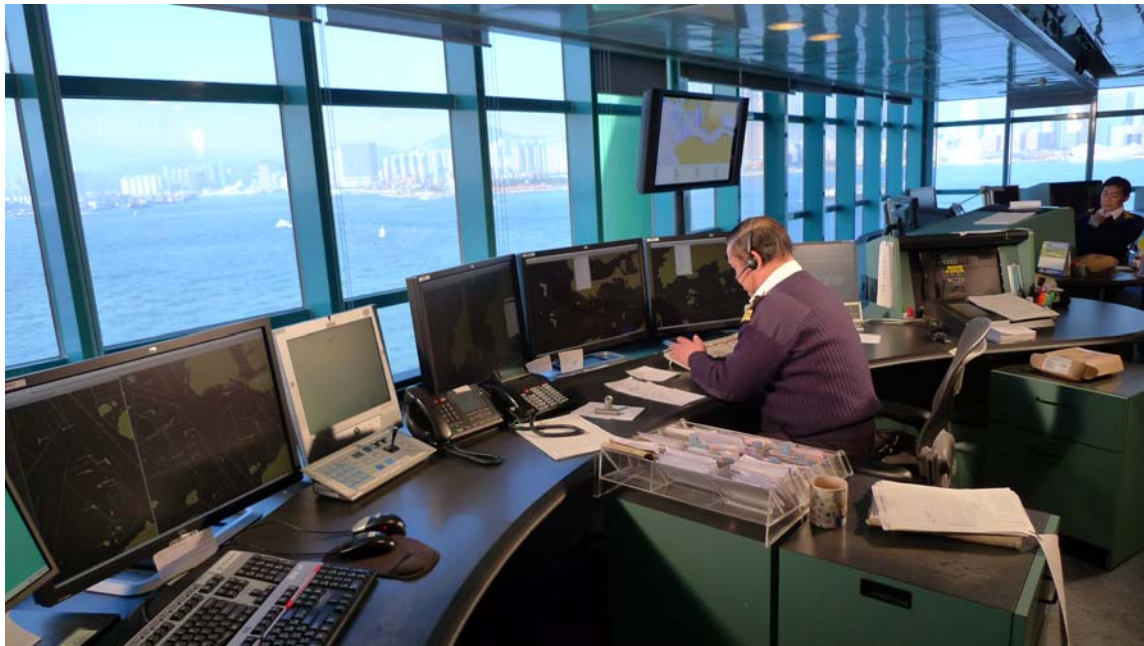
The measures and performance relevant to environmental protection in 2008 are as follows:

(a) Proactive Port Control

Vessel Traffic Services (VTS)

One of the objectives of the Hong Kong Vessel Traffic Services is to protect the 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 traffic monitoring by displaying traffic images on an electronic chart display (ECDIS) system. It enables full assessment on the overall traffic situation in the area so that appropriate navigational information or advice can be given to navigators to assist onboard decision in taking timely and substantial actions 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 evolution of e-navigation. The preparation for adopting the application of e-navigation would ensure VTC to continue to provide world-class vessel traffic services.



The Vessel Traffic Centre located inside the Hong Kong- Macau Ferry Terminal

Harbour Patrol

MD officers perform patrol duty onboard 22 patrol launches to ensure that vessels navigating in Hong Kong waters are in compliance with marine legislations including marine littering. Patrol officers regularly take prosecution actions against littering offenders. In 2008, we issued a total of 78 Fixed Penalty Notices to persons who had committed the offence of marine littering.

MD officers frequently inspect tankers and oil barges to ensure that they are stationed or operate at designated areas. During inspections, our officers would advise the 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/coxswain of the vessel or any person who discharges oil from a vessel commits an offence.

In addition, our officers keep a close surveillance for any dilapidated vessels or wrecks during their normal patrol to prevent any possible release of harmful substances, such as lubrication/fuel oil residue in

dilapidated vessels or wrecks, which would cause damage to the environment. In 2008, 29 dilapidated vessels and wrecks were removed for proper disposal.

Smoke Emission Control

In 2008, our officers launched a series of operations around Hong Kong waters to monitor smoke emission from vessels. The smoke emission is measured by the shade levels of the Ringelmann Chart. A total of 37 advisory letters and 5 warning letters were issued to the owners and masters/coxswains according to the shade level of smoke their vessels emitted. They were required to take remedial actions in order to improve the vessels' smoke emission.

Although we have not initiated any prosecution for vessels having emitted smoke based on legal advice, we have widely dispatched educational leaflets to the floating community to promote the importance of the proper engine maintenance in reducing smoke emission.

Under the Smoky Vessels Spotter Cadre Scheme, which has been training volunteers to report sighting of excessive smoke emission from vessels to MD since November 2007, 5 cases of smoke emission have been reported for MD's investigation and follow up actions in 2008.

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 2008, a total of 328 vessels have been inspected.

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 vessels transporting Class 1 dangerous goods (Fireworks) to the Hong Kong Disneyland regularly.

(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. MD is determined to keep the harbour clean by engaging effective and efficient marine refuse cleansing services.

As a result of prolonged torrential rains experienced in 2008, the total amount of marine refuse scavenged and collected in 2008 amounted to 17 166 tonnes. This represented an increase of 3.7% 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, MD has, on the basis of a comprehensive review on the overall refuse collection service, fully outsourced the marine refuse cleansing services to private cleansing company by way of three 5-year service contracts including the one for marine oil pollution cleansing services.

Since the implementation of the reformed outsourcing arrangement, we have reorganized the overall cleansing arrangements and engaged a fleet of some 70 contractors' vessels to deliver the services. Under this reformed arrangement, a special taskforce has been set up to help clean beaches and coastlines by participating in joint operations with other government departments.

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 against marine littering;
- ✧ 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 enhancing the public awareness of keeping Hong Kong waters clean.

(c) Preparedness in Dealing with Oil Spills

Maritime Oil Spill Response Plan

Hong Kong waters are susceptible to oil spill damage, owing to its proximity to busy shipping routes. Oil spills can play havoc on our maritime environment and economy. Oil spills from ships can be easily washed ashore causing irreparable environmental and economic 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 2008.

In addition to providing regular anti-oil pollution training to our staff, we held a large-scale oil pollution combating exercise in November 2008 to test and strengthen the preparedness of government departments and the oil industry under the Marine Oil Spill Response Plan.



Annual Anti-Oil Pollution Exercise 2008

Regional Maritime Oil Spill Response Plan

Recognising the high risk of maritime oil pollution in the Pearl River Estuary (PRE), MD has worked with the maritime authorities of the adjacent ports and formulated the Regional Maritime Oil Spill from Ship Response Plan (the Regional Plan) for combating major oil spill in the PRE. In September 2008, a Co-operation Arrangement was signed by the Guangdong Maritime Safety Administration, the Shenzhen Maritime Safety Administration, the Maritime Administration of Macao and MD to adopt the Regional Plan as the action guide for regional co-operation in response to major maritime oil spills from ships in the PRE.

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

MD 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. 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 has come into force globally since 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. At present, the use of organotin-based paints is already put under tight control in Hong Kong but local legislation is being prepared to enforce this new Convention for application in the HKSAR.

Besides the foregoing, MD 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 Tokyo 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 2008, 680 foreign ships entering Hong Kong waters were inspected, out of which 141 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 HK-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 travellers on a need basis. Green measures adopted in 2008 included replacement of deteriorated and inefficient components of the air-conditioning systems and replacing the lightings with energy saving bulbs and tubes 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 laminated on the glass curtain-walls along the fly-over bridges in the HK-Macau Ferry Terminal as a heat insulation agent with a view to reducing the demand for air-conditioning supply and power consumption.

Public Cargo Working Areas (PCWAs)

To lower power consumption, floodlights at PCWAs were adjusted and reduced to suit actual needs during and beyond 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. This combined wind-solar system will be put on further trial to assess its effectiveness.

(f) Going Green at Government Dockyard

The Government Fleet Division (GFD) is responsible for the overall management of government vessels. The GFD's main activities include operating its fleet, providing marine transport services for MD's offices and other government departments, performing new vessels procurement and maintenance of government vessels. The Government Dockyard (GD) at Stonecutters Island is the GFD's operational base mainly for its own fleet and maintenance base of all government vessels. The projected expenditure on the management of the government fleet in 2008/09 is about \$390 million. At the end of 2008, the government fleet was made up of 766 government vessels of different classes, types and sizes.

Going green is the long-term commitment of the GFD. Over the past years, many initiatives have been developed and adopted for the operations of the GD. They appear in the yards, in the offices, to its people, on new ships and in maintenance operations.



New Plantation with Solar Lawn Lights

Green Workplace

With a view to preserving the ecological environment in the GD and its basin, the following environmental measures have been implemented in the GD:

- (i) replacement of the remaining timber fenders at seawall 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;
- (ii) renovation of the carpentry/mechanical workshops, welding/fabrication covered sheds, and crew bathing/changing rooms with environmentally friendly materials and energy-efficient lightings;
- (iii) installation of the photovoltaic motion detection system at the GD's breakwaters to monitor entry of vessels. The system is operated by solar cells so that energy consumption is saved;
- (iv) further development of GD's greenery with solar lightings to improve the air quality and reduce the heat island effect;
- (v) replacement of the deteriorated air-conditioning system of

GD's store by energy-saving and environmentally friendly chiller units;

- (vi) reflective cellulose films have been fitted on the windows of the GD's Administration Building to insulate the heat, and thereby reducing the demand for air conditioning supply and electricity consumption;
- (vii) extraction fans have been installed at offices with photocopiers to remove the harmful effects from odour gas and toner powder to staff;
- (viii) recycling materials from six disposed high speed craft;
- (ix) 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;
- (x) useful parts and components are recovered from disposed engines and equipment for re-use;
- (xi) 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;
- (xii) 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 or systems; and
- (xiii) tightening control on the stowage of contractors' DG gas bottles and paints.



**Photovoltaic Motion Detection Sensor
to Monitor GD's Breakwater Security**



Reflective Cellulose Films on GD's Administration Building

Green Fleet

(i) Green New Vessels

As early as 2000, some new government vessels have already 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 engines, energy-efficient equipment, maintenance-free batteries, and the application of environmentally friendly paints and refrigerants.

(ii) Existing Vessels

Since 2002, our crew 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. Also, the use of tributyltin (TBT) free antifouling paint is applied for all government vessels to minimize harm to marine creatures.



New Energy Saving Chillers for A/C Units

(g) E-Communication with Customers

Phase 2 of the Electronic Business System (eBS) was launched on 28 April 2008 to provide a total e-business solution for port formalities documents and public services. The eBS not only saves the shipping community's resources and operating costs involved in preparing paper applications and submitting the applications in person,

but also contributes 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 2008, MD 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 MD's daily operation.

Green IT

In order to adopt a green computing strategy, MD has explored the latest information and communication technology and identified server virtualization on blades server as the feasible solution. In 2008, MD has successfully migrated and consolidated a number of production servers into a blade server. The migration has also greatly reduced the number of physical hardware for each system, hence reducing the office space for accommodating the servers and decreasing the electricity consumption and heat dissipation.

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 2008, we succeeded in reducing consumption of A4 paper by 10.2% and energy consumption by 12.6% when compared with 2002. With the various energy-saving measures taken, energy consumption has reduced by 7.2% when compared to the previous year. However, consumption of A4 paper has slightly

increased by 4.9% when compared with 2007. Detailed paper and energy consumption figures for the period between 2002 and 2008 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 2008, over 80% of the A4 paper used by MD was recycled paper.

Disposal of Empty Toners/Inkjet Cartridges for Printers

All empty toners and inkjet cartridges of computer printers are now collected for re-cycling through public auctions. A total of 977 empty toners and cartridges have been collected for re-cycling in 2008.

E-Christmas Card

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

Source Separation Scheme

MD's Headquarters at Harbour Building has joined the Source Separation Scheme organized by the Building Management Office in early 2008 to allow paper wastes, plastic bottles and aluminum cans to be collected separately at source.

[Back to Top](#)

(F) Performance under 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. MD, 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 Charter. Hereunder is a summary on the actions we have taken in 2008.

(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. It is the Government's policy since 2001 to use ultra low sulphur diesel fuel oil for all its vessels with a view to reducing the sulphur dioxide emission in the engine exhaust;
- 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 2008

The GD and government fleet operations have observed and complied with all the applicable local and international

ordinances/regulations related to emissions.

In 2008, 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 4 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. So far about 37% of the diesel engines (over 130kW) installed on Government vessels comply with the requirements when compared to 29% in 2007;
- for the 40 government vessels under our purview, about 1,949,230 litres of ultra-low sulphur diesel and 68,790 litres of unleaded ultra-low sulphur petrol have been consumed which corresponds to about 16% reduction as compared to the previous year. The corresponding emissions of NO_x, RSP and SO₂ were about 100,210, 4,010 and 170 kg respectively for 2008;
- the total electricity consumed by different MD workplaces was 22.83GWh which was about 7.2% less than the electricity consumed in 2007. The corresponding indirect emission of SO₂, NO_x and RSP were 43,600, 26,480 and 1,370 kg respectively;
- the GD's Administration Building was classified as "Good Class" under the Indoor Air Quality Certification Scheme;
- the existing dynamometer has been upgraded with new data acquisition and control system for engine tests and performance records. With the enhanced testing system, more engines could be tested and therefore engine breakdown and deficiencies would be greatly reduced. In addition, a new flue

gas analysis system has been installed to monitor the exhaust gases with reference to the emission standards;

- the aged high bay flood lights in GD's carpenter workshop have been replaced by energy-saving fluorescent lights; and
- an odour treatment and air disinfection system has been installed in the fire extinguisher workshop to treat odorous gases emitted from chemicals.

[Back to Top](#)

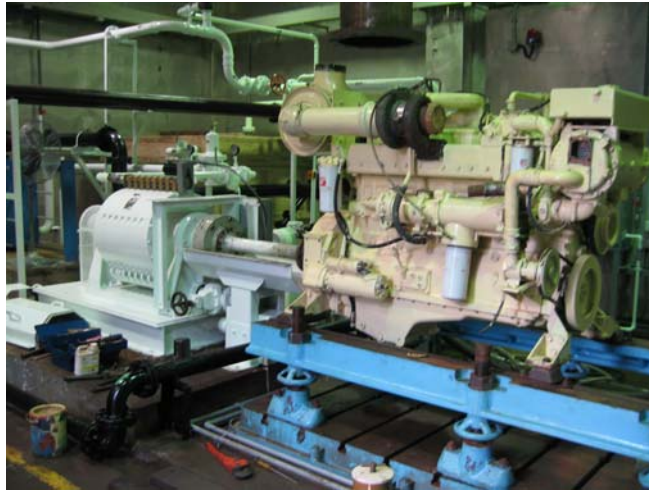
(G) Environmental Targets for 2009

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 encourage our staff and appeal for their greater support for adopting more green measures and participating more in green activities initiated by MD or the community;
- continue to explore new means and pay particular attention to a wider use of electronic measures to minimize the usage of paper and energy;- and
- work closely with the Electrical and Mechanical Services Department in implementing new energy-saving initiatives to reduce electricity consumption and identifying renewable/alternative energy.

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

- further improve greenery 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;
- continue to 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;
- retrofit selective catalytic converters for a few vessels to evaluate the performance of emission reduction;
- continue to seek funding to install photovoltaic system to generate electricity for the Guard House and the Administration Building and solar water heating 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
- continue to review vessels' operational profile and urge all user departments to operate at the optimal conditions as far as practicable to reduce fuel consumption.



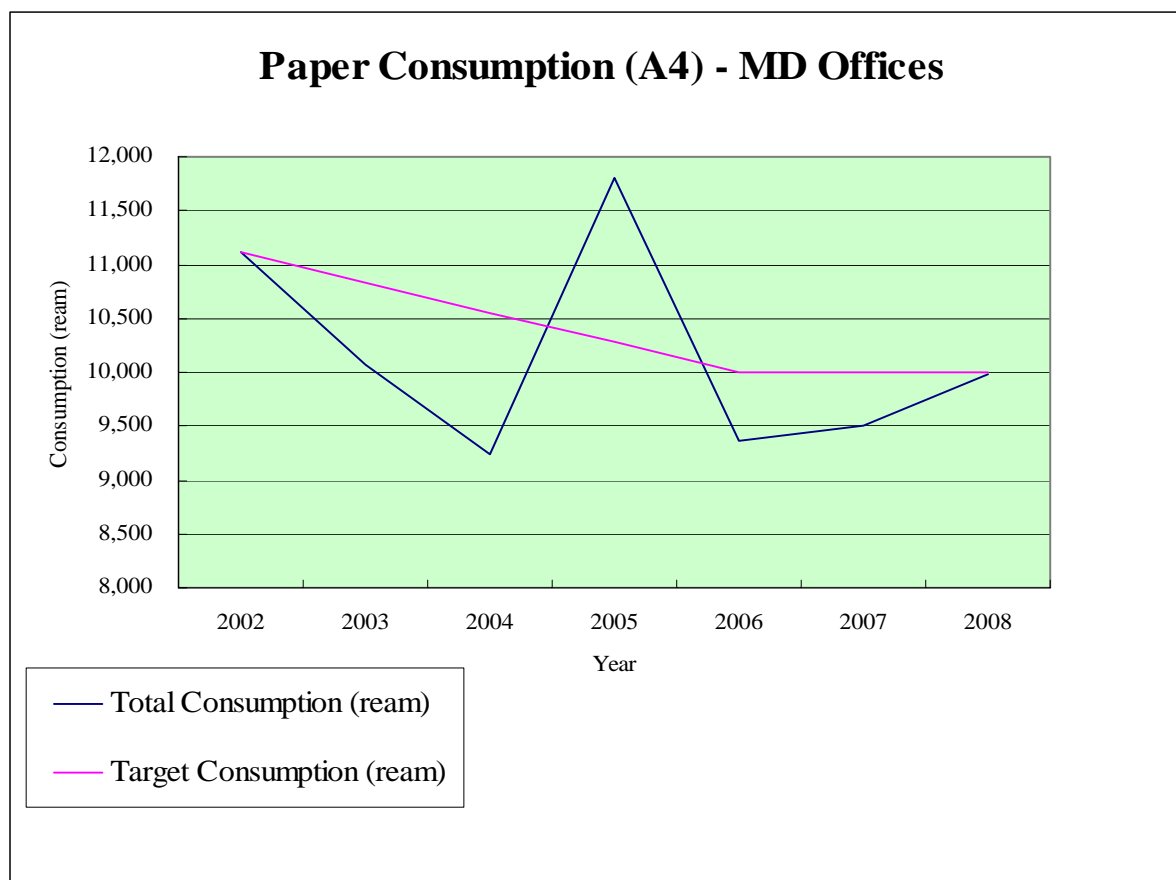
New Flue Gas Analysis System to Monitor Engine Exhaust Emission

[Back to Top](#)

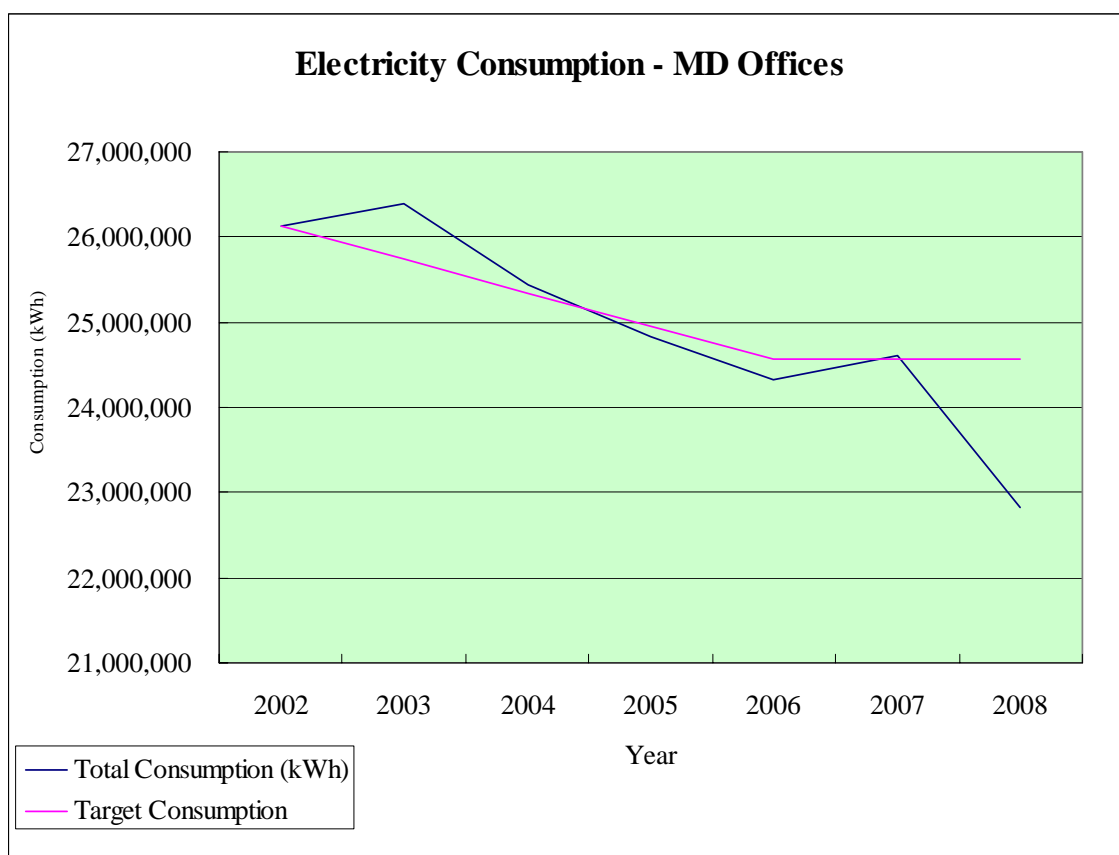
(H) Information and Suggestions

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](tel:25417194).

[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%
2008	9,975	9,999	-10.0%	-10.2%



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%
2008	22,829,650	24,561,972	-6.0%	-12.6%