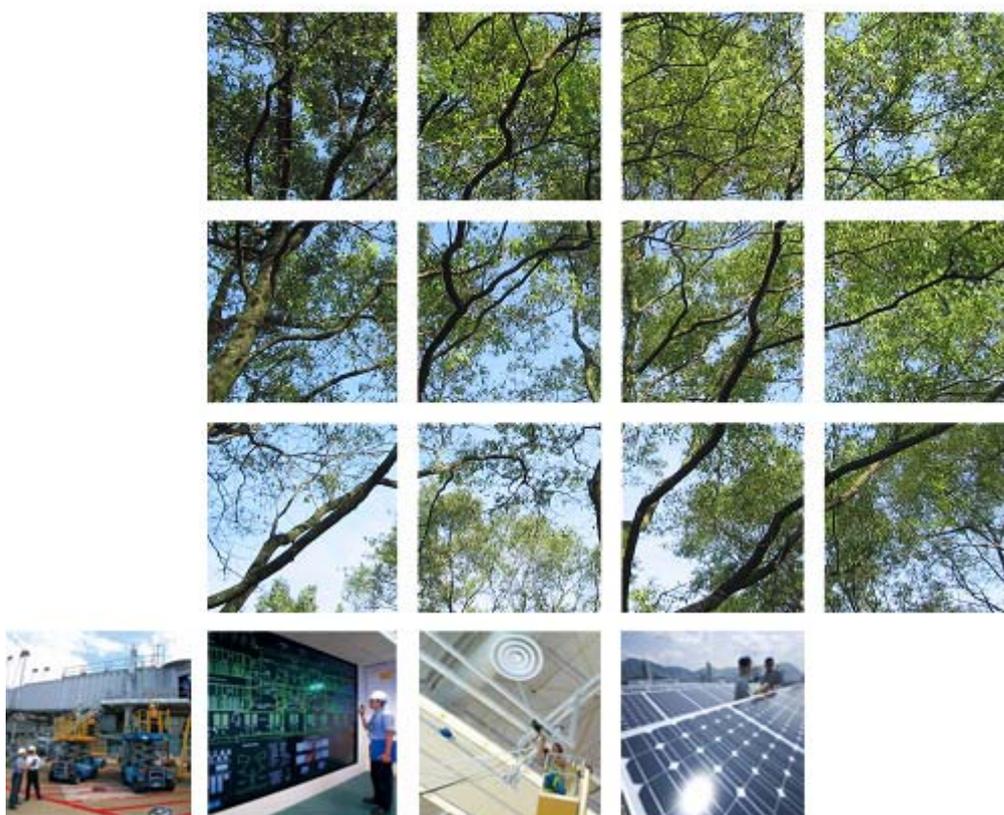


# Social and Environmental Report 2006/07





*The Sky is that beautiful old parchment  
in which the sun and the moon keep  
their diary  
- By Alfred Kreymborg*

This report covers the operation of Electrical and Mechanical Services Department (EMSD) in the territory for the period from 1 April 2006 to 31 March 2007. Data are presented as absolute figures and cover the geographic locations in which we operate. Data on priority issues have been normalised into comparable terms where appropriate and practical. All monetary values are in Hong Kong dollars.

Published in December 2007 by the  
Electrical and Mechanical Services Department  
3 Kai Shing Street, Kowloon, Hong Kong  
Website: <http://www.emsd.gov.hk>

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# Performance at a Glance



## Environmental

- We have achieved a “zero” legal or statutory non-compliance record throughout all our divisions and sub-divisions.
- We have fulfilled the requisite requirements and upgraded all our existing Environmental Management System (EMS) to ISO14001:2004 before June 2006.
- In support of waste recycling in the workplace and to conserve resources, used industrial-type rechargeable batteries have been collected commencing in 2006 for recycling. In addition, we have also set up recycling bins at EMSD Headquarters to promote and collect used portable type rechargeable batteries.
- We have reviewed the reporting format of this publication and shall continue to report our performance with reference to GRI and Government Requirements.
- The rooftop photovoltaic system and wind turbines at our Headquarters generated approximately 320,000 kWh of clean electricity in 2006/07, representing an estimated reduction of 220 tonnes of CO<sub>2</sub>, 670 kg of SO<sub>x</sub> and 420 kg of NO<sub>x</sub> emissions .

## Social

- We continue to ensure open and effective communication with all our staff. Last year, over 60 meetings were conducted with staff unions, Departmental Consultative Committees etc.
- We have achieved and exceeded the training target of 4.5 days per staff member per year on average.
- Under the “Safe Working Cycle” promotion programme, our staff have been encouraged to do stretching exercise every morning in all operation and maintenance venues/sites.
- A comprehensive review on the training scheme for multi-discipline line managers was conducted in July 2006, which recommended that the training scheme be continued for another 2 years.
- As a commitment to the long-term development of Hong Kong’s E&M engineering sector, 24 engineering graduates and 85 apprentices were recruited for graduate training and apprenticeship training respectively in 2006/07.
- To keep in pace with technological advancement and embrace needs of the building industry, new editions of the Codes of Practice for Energy Efficiency for Buildings were released in March 2007.

## Economic

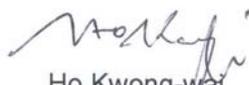
- During 2006/07, our average number of employees was about 5,000.
- EMSTF continued to report positive financial performance in 2006/07, with Return on Revenue (ROR) at 11.3% and Return on Average Net Fixed Asset (ANFA) at 35.1%.
- We let out contracts totalling more than \$1.39 billion for the provision of goods and services in 2006/07.

## Director's Message

I am delighted to present this Social and Environmental Report, our eighth annual publication which records our environmental, social and economic performance in the past year. We continue to use the Triple Bottom Line approach to report our performance against environmental, social and economic parameters, and make reference to the Global Reporting Initiative Guidelines in maintaining a high level of openness and transparency in our communication with stakeholders.

Occupational health and safety in the workplace was one of our priorities in the past year. Further reduction in waste and emissions, and energy saving were achieved. Our economic performance continues to be robust, with overall improvements in financial performance and operational efficiency.

I hope you will find this report interesting to read.



Ho Kwong-wai

Director of Electrical and Mechanical Services

## About EMSD

### Departmental Profile

EMSD has around 5,000 employees providing Regulatory Services and Trading Services.

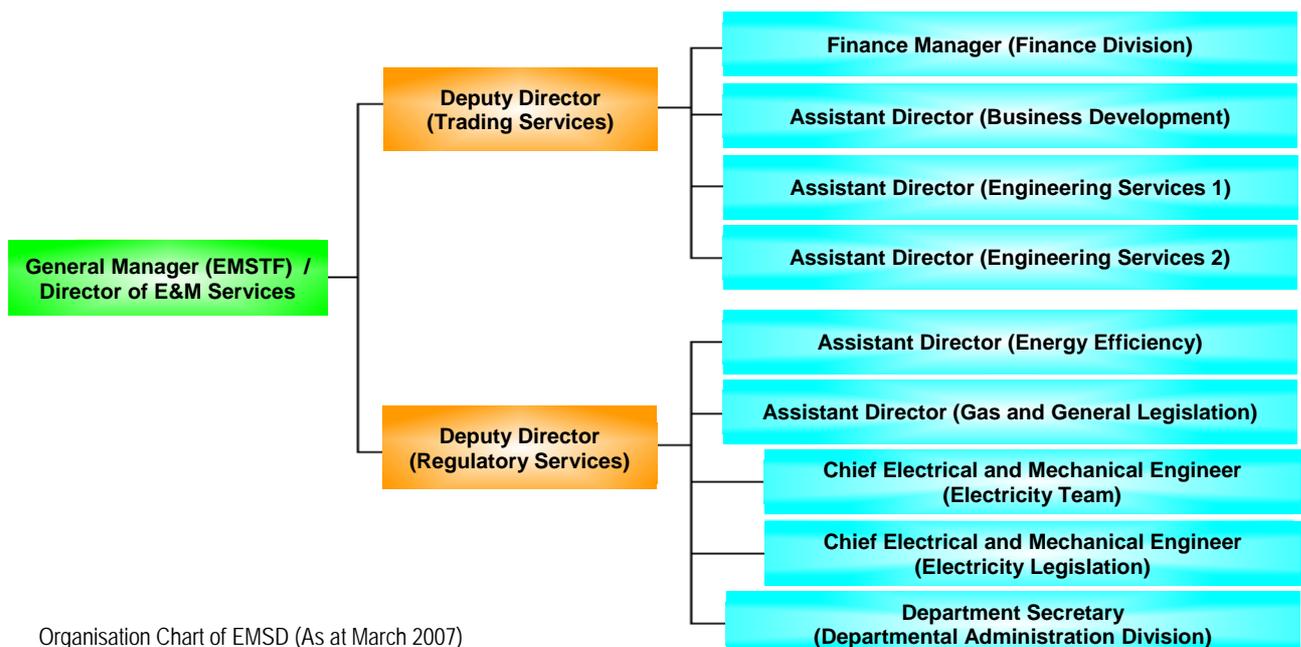
There are three major areas of responsibilities:

#### Regulatory Services (RS):-

- (a) Safeguards public safety through implementing a set of comprehensive regulatory framework and systems on electrical, mechanical and gas installations, and working closely with the community on public education, to monitor the operation and development of electricity and gas utilities and supply.
- (b) Promotes energy efficiency and conservation, and application of alternative energy.

#### Electrical and Mechanical Services Trading Fund (EMSTF):-

- (c) Provides a wide range of E&M engineering services from consultancy and design to operation and maintenance to more than 100 government departments and public bodies in Hong Kong.



Organisation Chart of EMSD (As at March 2007)

## Vision, Mission and Values

### Regulatory Services

#### Vision

To be the government agency that makes Hong Kong a top-ranking city in E&M safety and in the utilisation of energy.

#### Mission

To enhance the safety and the quality of life of our community by ensuring that E&M and energy technologies are harnessed in a safe, reliable, economical and environment-friendly manner.

#### Values

Expertise  
Integrity  
Reliability  
Commitment

### Trading Services

#### Vision

To be the most preferred E&M engineering service provider in Hong Kong.

#### Mission

To give our community a better quality of life by providing our customers and the public with total engineering solutions and service excellence.

#### Values

Customer focus  
Caring  
Integrity  
Service excellence  
Commitment

## Corporate Governance

EMSD is a government department of the Hong Kong Special Administrative Region (HKSAR) with a clearly defined organisational structure. At the departmental level, the Departmental Management Committee (DMC) comprising senior management personnel within the department is responsible for ensuring the department's fulfillment of management accountability and governance expectations. Advising the DMC is the Committee of Policy and Strategy responsible for formulating and planning departmental management needs at policy and strategy level. Policy implementation and programme development are monitored by the Senior Management Team Committee and Trading Service Management Committee in RS and EMSTF, respectively.

As a trading fund operation, EMSTF also has an Executive Board and a Management Board. Chaired by the Permanent Secretary for Development (Works), the Executive Board endorses policies and oversees the operation of

EMSTF. The Management Board, chaired by the General Manager (i.e. Director of Electrical and Mechanical Services), is responsible for the management and operation of EMSTF and reports to the Executive Board. More information can be obtained from EMSTF Annual Reports and Regulatory Services Achievement Overviews ([www.emsd.gov.hk](http://www.emsd.gov.hk)).

Various legislation, policies, circulars and instructions are in place to govern our organisational practices. The followings are of major importance to the operation of our business:

- Public Finance Ordinance
- Trading Funds Ordinance
- EMSTF Framework Agreement
- Finance and Accounting Rules

In addition to the relevant policy bureaux to which EMSD is accountable, our operations are also subject to independent monitoring by the Legislative Council (LegCo), the Ombudsman and the Director of Audit.

## Management Systems

At EMSD, we have combined quality, environment, and health and safety systems into a single system – the Integrated Management System (IMS). The IMS helps streamline and minimise duplicated processes, and improves the overall efficiency of our management system. To ensure that IMS is operated according to our established policies and the requirements of ISO14001, ISO9001 and OHSAS18001, we regularly carry out internal and external audits. We also review client feedback and the progress of any corrective/preventive actions arising from non-compliances.



In 2003, we took a step forward and commenced the implementation of Total Quality Management (TQM) system. We became the first government department to be awarded the Gold Award of Hong Kong Management Association Quality Award in 2006.

## Stakeholder Engagement

As a government agency, our stakeholder groups include:

- Customers
- Policy bureaux
- Staff
- Industry and business organisations
- Suppliers and contractors
- Professional and trade associations
- The general public

We work closely with our stakeholders to solicit their views and opinions on our TBL reporting approach. Given the varied nature of our stakeholders, we have developed different communication programmes to cater to their different needs. Our communication channels include customer liaison groups, staff consultative committees, regular consultations with trade associations and professional institutions, annual reports, newsletter – *VoiceLink*, and ongoing electrical and mechanical safety and energy efficiency promotion programmes and publications. Furthermore, senior managers are also personally involved in supporting and encouraging colleagues to join the Council and various Boards and Committees of the Hong Kong Institution of Engineers and participate in other international engineering organisations, as part of the effort to upkeep the high professional standards of the industry in Hong Kong.

Staff and customers are two of our major stakeholder groups. Opinion surveys with these stakeholders are conducted once every two years. The latest customer satisfaction survey conducted in 2006 reported a score of 6.05 on a scale of 8 while the staff survey in 2005 reported a satisfaction score of 6.6 on a scale of 10. Both surveys continue to exhibit an increasing trend.

## *Environmental Policy*

### **Our Goal:**

The management and staff of the Electrical and Mechanical Services Department are committed to building a better environment through an ongoing environment conservation, protection and improvement programme.

### **Our Policy:**

- \* To take pride in ourselves as a responsible organisation that is helping to build a better environment.
- \* To take every reasonable and practicable measure to conserve resources, minimise the generation of waste and prevent pollution in each and everyone of our business operation processes.
- \* To comply with green legislation as the baseline of our operations and to ensure that all staff behave accordingly.
- \* To encourage our contractors and their staff to be equally friendly to the environment.
- \* To ensure that our environment management system conforms to internationally recognised ISO 14001 standards.



## Environmental Performance

### Overview

Aiming for a better quality of life for the community represents an underlying principle of the day-to-day operation of EMSD. To this end, we see the need to protect, conserve and improve the environment in which we operate. Our efforts include reducing the energy, water and other resources and materials we consume in the course of rendering our services. At the same time, we also work to minimise environmental pollution such as emissions, effluents and waste.

### Environmental Management System

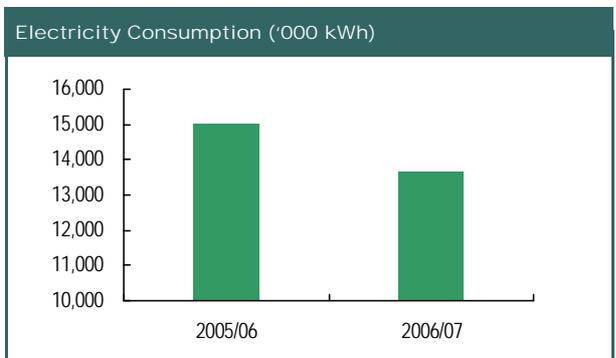
First implemented in the mid-1990s, our Environmental Management System (EMS) featured a decentralised management framework, with each division ensuring that its operations comply with internationally recognised standards and the legislative requirements in Hong Kong. In 2000, we became the first government agency to attain the ISO14001 Corporate Certificate. Then in 2002, we streamlined our management systems in quality, environmental, and occupational health and safety, and combined them into an Integrated Management System (IMS), which is primarily based on the "Plan-Do-Check-Act" cycle.

### Energy

#### Electricity Consumption

Electricity is mainly consumed in our Kowloon Bay headquarters and Caroline Hill workshop. The total purchased electricity in 2006/07 was 13.66 GWh which was below the baseline of 13.95 GWh, despite an expansion of services

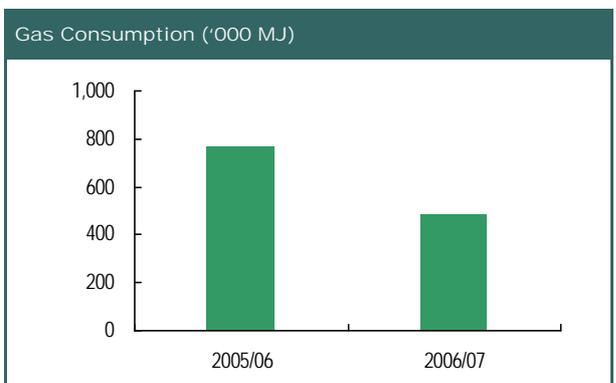
such as our data centre services and addition of new equipment upon relocating to Kowloon Bay in 2005. As a commitment to continuously saving energy and reducing greenhouse gas emissions, we have set an electricity saving target of 1.5% for 2007/08.



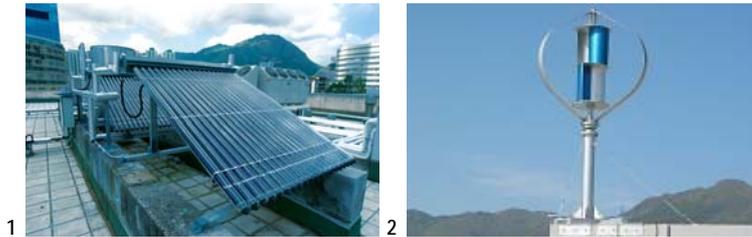
\* In 2005/06 the target was 16.03 GWh because of overlapped operations of the both old and new headquarters in 2005/06.

#### Gas Consumption

Towngas is often used for water heating in EMSD, but our new headquarters at Kowloon Bay use a mix of heat pumps and electric boilers for hot water heating. Our former headquarters at Caroline Hill rely on towngas for water heating and consumption has continued to decline to around 486,000 MJ in 2006/07.

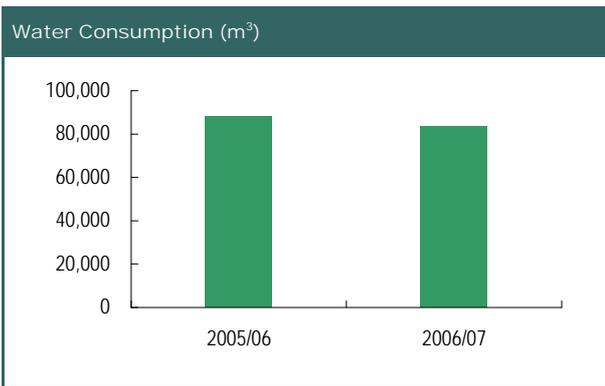


- 1. Solar Heating System
- 2. Wind Turbine System



## Water

Water is mainly consumed for air-conditioning, gardening, drinking, and cleaning etc. Consumption data are available for Caroline Hill and Kowloon Bay. The overall consumption was around 84,000 m<sup>3</sup> in 2006/07. As an initiative to reduce consumption, grey water at our Kowloon Bay headquarters is collected, treated, recycled and reused for toilet flushing and gardening. On average the grey water recycling system helps reduce water consumption by around 6,000 m<sup>3</sup> per annum.



## Materials

### Materials Used in Offices

#### Paper

Photocopy and printing paper is the major consumable item in the office. The Electronic Document Management System helped to reduce paper consumption in our offices. In 2006/07, the paper consumption was 30,547 reams, slightly higher than 29,216 reams in the previous year. The increase in paper consumption can be attributed to the replacement of traditional pre-printed forms by computer printed forms, which

consumed an estimated amount of about 3,560 reams, or 11.6% of the paper used. Discounting this factor, the paper consumption would have decreased by 7.6%. Moreover, since 2001 we have adopted widespread use of environmental-friendly recycled paper made from recycled fibre.

#### Toner Cartridges

Cartridges, if not recycled for remanufacturing would contribute to filling up our landfills. We used some 2,500 toner cartridges in 2006/07. Starting last year, we followed government initiatives to recycle all used toner cartridges.

### Materials Used in Workshops

We recognise that the materials and products used in our everyday operations impact the environment in different ways through their production, use and ultimate disposal. EMSD will work to reduce the use of materials, to recondition and re-use them whenever possible, and to sustain resources over the long term. For details of our performance in other industrial materials consumption, please refer to the section "Summary of Statistics".

## Emissions, Effluents and Waste

We are aware that our operation can produce waste and impact the environment. Our waste management strategy is to maximise material recycling and minimise unavoidable waste generation. Waste is primarily generated from two sources – offices and workshops. The following sections detail our progress in the past 12 months.

## Waste from Offices

### *Waste Paper*

Waste paper is one of our major items for recycling. Paper is used everyday at our offices, and therefore an effective and efficient channel for collecting and handling our waste paper is needed for proper waste management. Waste paper is collected through various collection points and picked up by paper recyclers. In 2006/07, we collected some 24,000 kg of waste paper for recycling.

### *Toner Cartridges*

Used toner cartridges are collected by recycling collectors, refilled and reused. We strive to strengthen the existing used toner cartridge recycling. More statistical data on toner cartridges collection are provided in the *Summary of Statistics*.

## Waste from Workshops

### *Waste Oil*

Waste Oil is generated from our workshops while rendering service to our customers, in particular our vehicle maintenance services. It is picked up regularly by registered chemical waste collectors and treated in registered chemical waste treatment facilities. In 2006/07, about 80,000 litres of waste oil were collected for recycling or disposal in accordance with the ordinance .

### *Spent Mercury Lamps*

Spent mercury lamps have been collected from offices and workshops by registered chemical waste collectors and delivered to the Chemical Waste Treatment Centre in Tsing Yi for recycling. In 2006/07, over 112,000 spent mercury lamps were collected and recycled under this collection programme.

### *Used Rechargeable Batteries*

Used rechargeable batteries contain rare metals that can be recovered and reused. Subsequent to the launch of a recycling programme by the Environmental Protection Department (EPD) on domestic type rechargeable batteries, EMSD has also adopted and implemented this scheme. In addition, EMSD will also implement the collection of industrial type batteries generated from our operation for recycling. At the same time, we are also monitoring the management and disposal of primary batteries. More information can be found in the Appendix.



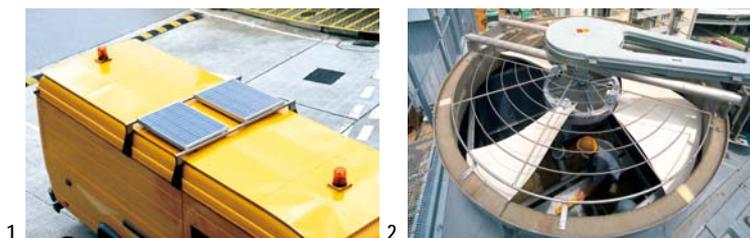
### *Metal Scraps*

Metal scraps are valuable natural resources which can be completely recycled and reused without deterioration in their composition during the recycling processes. Most metal scraps generated from our operations such as vehicle maintenance have been collected and recycled. In 2006, the weight of collected metal scraps was 36,000 kg which is 4.4% less than that in the previous year.

### *Used Vehicle Tyres*

Used vehicle Tyres arise from our vehicle maintenance services for government vehicles. They are collected and recycled by local waste tyre collectors listed on the EPD's directory. More than 11,000 tyres were collected and another 273 tyres were selected for retread for further use on vehicles in 2006/07.

1. Solar Panels on Vehicle  
2. Installation of Evaporative Cooling Tower



## Emissions

### *Greenhouse Gas Emissions*

Greenhouse gas (GHG) emissions are widely acknowledged as a cause of global warming and climate change, therefore reducing emissions such as CO<sub>2</sub> is one of our biggest challenges. EMSD's greenhouse gas emissions are mainly attributed to the consumption of electricity in our offices and workshops, and transport. Direct emissions from transport amounted to some 2,000 tonnes of CO<sub>2</sub> whereas indirect emissions from electricity consumption were about 9,600 tonnes of CO<sub>2</sub> in 2006/07.

We shall also continue to assist our customer to achieve their energy saving targets by providing them with the best engineering consultancy and services, and the trial application of new energy saving / renewable energy technologies, and thus help reduce the use of energy as well as the emission of GHG and other pollutants.

## Effluents and Compliance

There were no non-compliance incidents related to water discharge under the Water Pollution Control Ordinance from April 2006 to March 2007.

## Transport

The use of transport in EMSD operations consumes non-renewable fossil fuels and generates GHG emissions. We have a fleet of around 250 vehicles including lorries, vans, saloon cars and motorcycles for carrying out our services. At the same time, we also provide maintenance services for a fleet of over 5,800 government vehicles. We have to ensure that the emissions from such activities are reduced to a minimum by employing good housekeeping. Furthermore, we can reduce emissions by proper maintenance of vehicles, reduced use of

transport or switching to hybrid vehicles. EMSD now operates two hybrid vehicles as a trial scheme and the results are highly promising. The vehicles consumed 40% less fuel than conventional cars of similar size.

## Raising Public Awareness

Our Energy Efficiency Office promotes energy efficiency and conservation in Hong Kong.

### **Energy Conservation Charter 2006 - Suitable Room Temperature**

A programme was launched in July 2006 to promote energy saving by maintaining room temperature of air-conditioned premises at 25.5 degree Celsius in summer months. Participating organisations, groups and individuals were encouraged to work together to save energy in their daily lives and adhere to the principle of "use if necessary, save if possible".

### **Hong Kong Energy Efficiency Awards**

The awards aim to promote best practices, recognise efforts and honour successes in energy efficiency and conservation for the private sector in Hong Kong. The first Hong Kong Energy Efficiency Awards was launched in 2005 and the prize presentation ceremony took place in May 2006. Average energy savings of 8.1% were achieved by the award winning companies and organizations. The second Hong Kong Energy Efficiency Awards followed in November 2006. Participants take part in an 8-month competition and the results will be available by the end of 2007.

### Proposed Mandatory Energy Efficiency Labelling Scheme

As a positive step forward to further promoting the efficient use and conservation of energy, the Government has proposed to introduce a mandatory Energy Efficiency Labelling Scheme. Three kinds of products, namely room air conditioners, refrigerating appliances and compact fluorescent lamps, will be included in the initial phase of the mandatory EELS. The proposed legislation is being examined by a Legislative Council Bills Committee. With the implementation of the mandatory scheme for these three product types, it is estimated that an additional electricity saving of 150 GWh per year for Hong Kong can be achieved.

### Pilot Scheme for Wider Use of Fresh Water in Evaporative Cooling Towers

The scheme was expanded to allow more building owners to use water-cooled air conditioning systems for reduction of energy use. There has been a significant increase in the number of applications and completed projects under the scheme. As at the end of March 2007, the number of designated areas under the pilot scheme has been expanded to 79 locations, which cover almost all major districts with high air-conditioning load density. Among the 137 approved applications since the scheme inception, 76 installations were completed, resulting in an estimated energy saving of 67.8 million kWh annually and an annual reduction of 47,500 tonnes of CO<sub>2</sub> emissions, 142 tonnes of SO<sub>x</sub> emissions, and 88 tonnes of NO<sub>x</sub> emissions.

A new Code of Practice (CoP) for the water-cooled air-conditioning system was published in



July 2006, providing detailed guidelines and technical reference for cooling tower design, installation, commissioning, operation and maintenance, as well as water treatment methods. The CoP was designed to promote the proper design and operation of cooling towers, so as to meet the energy efficiency objective with due consideration of environmental and health issues.

### Promotion of Renewable Energy

As part of our drive to promote the wider use of renewable energy in Hong Kong, we advise on the adoption of renewable energy features and technologies in public works projects. We are also responsible for monitoring progress and maintaining a database for experience sharing and referencing by all government departments.

To showcase the application of photovoltaic systems and wind turbine technology in Hong Kong, we have installed in our headquarters the largest rooftop photovoltaic system in Hong Kong comprising a solar array of more than 2,300 PV modules with a total capacity of 350 kW, and two small scale wind turbines of vertical axis type with a rated capacity of 1.5 kW and a horizontal axis type with a rated capacity of 1 kW.



In 2006/07, the systems generated approximately 320,000 kWh of clean electricity, representing a reduction of 220 tonnes of CO<sub>2</sub>, 670 kg of SO<sub>x</sub> and 420 kg of NO<sub>x</sub> emissions.

1. Participation in Green Carnival
2. EnergyLand Website



## Promotion of Energy Efficiency for Buildings

As a continual promotion and improvement of energy efficiency for buildings, we have been working together with members from representative organisations in the building industry including professional institutes, trade associations and the academia to review and update the Codes of Practice for Energy Efficiency for Buildings periodically. For the purpose of energy saving, the minimum energy efficiency performance of the buildings will be progressively raised taking into consideration the changes and advancement in technologies and the trade practices of good engineering. Following the review in late 2006, new editions of the Codes of Practice for Energy Efficiency for Buildings were released in March 2007.

## Clean Air Charter

To demonstrate Government's commitment to improve air quality, the Chief Executive signed the Clean Air Charter on behalf of the Government of HKSAR on 27 November 2006. As the major engineering service provider for the Government, we are developing an action plan which aims to implement the commitments made in the Charter, and to continuously improve the air quality affected by our operations. The objective is to provide a better quality of life for our community. We shall extend the coverage and report the progress towards improving air quality in the next report.

### *Emissions Factors used in this report:-*

- CO<sub>2</sub> emission factor for electricity = 0.7 kg/kWh
- CO<sub>2</sub> emission factor for gasoline vehicle = 2.4 kg/litre
- CO<sub>2</sub> emission factor for diesel vehicle = 2.7 kg/litre
- SO<sub>x</sub> emission factor for electricity = 2.1 g/kWh
- NO<sub>x</sub> emission factor for electricity = 1.3 g/kWh

## Social Performance

### Overview

As a caring and responsible corporate citizen, we have the obligation to provide a safe and healthy environment for our employees, other people working for us as well as those who may be affected by our work, and to comply with the relevant legislation.

### Our Staff

At EMSD, we recognise the need to continually enhance the capabilities and competitive strengths of our people in order to build a capable and progressive workforce. As such, we fully support our employees in pursuing learning and development opportunities that will eventually enhance their contribution to the organisation.

### Employment

As a government agency, we are governed by the relevant codes of conduct issued by the Civil Service Bureau and provide equal employment opportunities in accordance with the law. At the end of 2006/07, we have approximately 5,000 employees, about 74% of whom are employed on permanent terms. As a commitment to upholding the equal opportunity employment policy, we currently have 264 employees with minor disabilities, representing about 5.3% of our total workforce.

As for salary payment, we strictly adhere to government policies on timely payment of staff salaries and maintain payment records as required.

In addition, staff members are free to join the various established staff unions/consultative committees as well as the general government unions to facilitate communication between a

particular group of staff and management within EMSD.

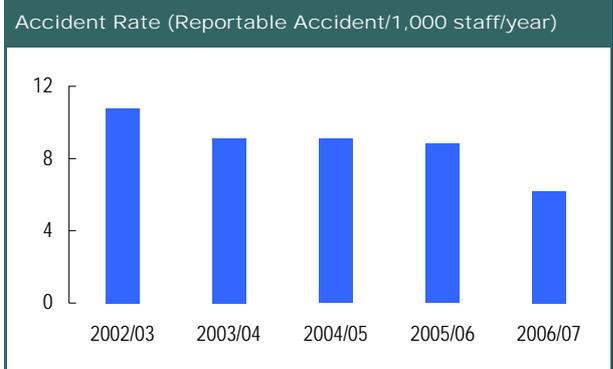
### Employee Satisfaction Surveys

Independent research specialists are appointed to conduct staff satisfaction surveys on a regular basis. In the latest 2005 survey, every employee at senior engineer rank and below was provided with an opportunity to express his/her views through a survey questionnaire. We are pleased to report that the average overall staff satisfaction rating has further improved by 0.1 compared to the 2003 rating, reaching a record high of 6.6 on a scale of 10.

### Healthy and Safe Working Environment

#### Occupational Health and Safety

At EMSD, we take a proactive approach to Occupational Health and Safety (OH&S). Our Safety and Health Policy and infrastructure help ensure that a high standard of OH&S in the workplace can be achieved and maintained throughout the department. Our Departmental Occupational Safety and Health Committee, which comprises management and staff representatives from branches/divisions as well as departmental consultative committees, meets



1. Experience sharing workshop
2. Multi-skill Training



on a regular basis to review our safety performance in all areas with a view to identifying areas for improvement of health and safety in the workplace. We have continued to conduct training and refresher courses, and disseminate information through various channels. Our accident rate has steadily declined since 2000, and more recently from 8.84 in 2005/06 to 6.19 in 2006/07, representing a 30% reduction.

### Sick Leave

In 2006/07, a total of 15,752 working days were lost due to sick leave. This translates into around 3.12 days per employee.

### Indoor Air Quality (IAQ)

Our headquarters building was certified to “Good Class” in accordance with the “IAQ Certification Scheme for Offices and Public Places” organised by the EPD in November 2005. In addition, we provide a “Total IAQ Solutions” package to assist government departments to improve the IAQ in their workplace. The package also includes consultancy services tailored to customer needs, measurement of existing IAQ levels, with recommendations and implementation of appropriate improvements.

## Learning and Development

We are committed to promoting a continuous learning environment to develop a motivated and competent workforce through effective management and continuous development of our human resources. Our Training and Development Committee, chaired by the Director of Electrical and Mechanical Services and comprising Heads of Departmental Grades as well as senior managers of General and Common Grades, meets regularly to review our training programmes.

### Graduate Training Scheme

Since its inception in the 1960s, our Engineering Graduate Training Programme has attracted more than 620 graduate participants. The programme has long been considered one of the best on-the-job training schemes in the engineering profession in Hong Kong and has contributed to the provision of trained engineers to meet the needs of the local profession. In 2006, we recruited 24 engineering graduates specialising in electrical, mechanical, electronic, building services, information technology and biomedical engineering.

### Apprentice Training Scheme

Another remarkable training programme is the Technical and Craft Apprentice Training Scheme. The purpose of these schemes is to ensure the provision of systematic training of an acceptable standard for both the present and future needs of EMSD as well as the community within a wide variety of occupations. The long-standing scheme has been running for over 50 years, training up more than 4,500 apprentices for the profession.

### Training Targets

In 2006/07, we achieved 6.36 training days per staff per year on average, far exceeding the 4.5 days target set for the year. We continue to encourage and provide training needed for enhancing our services and developing new business.

## Contractor and Supplier Management

In addition to our own team of professional engineers, we often invite our working partners, such as our consultants and contractors, to tender for public works contracts. In selecting contractors, we adhere to the basic principles of honesty and fairness, adopt competitive tendering wherever applicable and in compliance with government guidelines. We establish and maintain close communication with our suppliers and contractors to ensure that critical information, such as customer concern, is clearly conveyed to them and that relevant issues are addressed properly and in a timely manner. To monitor the work of contractors, we conduct regular meetings and audits to keep track of project progress as well as to minimise any inconvenience or disturbance caused to the neighbourhoods where the works take place. Once completed, a post project review is carried out to further assess the performance of the contractor.

## Customers

Customer satisfaction influences our day-to-day business, particularly that of our Trading Services. In this regard, we commission an independent customer satisfaction survey once every two years. The most recent survey completed in March 2006 showed improvement once again in our customer satisfaction rating, with a score of 6.05 on a scale of 8, up from 5.97 in 2004. In serving the community through our Regulatory Services, our Customer Liaison Group meets regularly with representatives from the general public to exchange views and get direct face-to-face feedback on our regulatory and safety promotion activities, and how these can be improved.

## Community Activities

### Public Education

We work closely with the Government and the Hong Kong community to ensure public safety. Public education is an important aspect of the work of our Regulatory Services. We promote E&M safety and energy efficiency through a variety of channels, including publications, promotional and advertising campaigns, posters and mail-outs, carnivals and road shows, game contests and quizzes, and talks and seminars tailored to both the trades and the general public. In 2006/07 we continued to engage the community in other educational activities including:



- \* **Education Path in EMSD Headquarters** — The education path in EMSD Headquarters showcases best practices in energy conservation and highlights our regulatory functions. In 2006/07, over 90 tours were conducted receiving some 3,000 visitors.
- \* **E&M Safety Campaign** — For the sixth consecutive year in 2006/07, we have teamed up with key industry players from various sectors to organise the E&M Safety Campaign for the general public. This has been one of the largest public education collaborations between the public and private sectors, featuring an outdoor carnival and a mass media advertising campaign.

- 1. Tree Planting Day
- 2. 30-day Web-based Safety Quiz Competition



\* **Hong Kong Energy Efficiency Awards** — First launched in 2005, the award is an energy saving competition for the private sector to promote best practices in energy efficiency and conservation. The second competition was launched in November 2006 and is due for completion later in 2007.

\* **Service Hotlines** — We maintain two service hotlines for customers and the community at large. One is a 24-hour EMSTF Hotline for customers (2333 3762). The other is a 24-hour public enquiry hotline (1823), also called Citizen's Easy Link. The hotlines provide round-the-clock services so that we are easily accessible to provide help and support whenever it is needed.



- \* **E&M Safety Newsletter** — This is a family-friendly publication with handy tips on domestic E&M safety and energy efficiency, and reaches tens of thousands of households and students across the territory.
- \* **EnergyWits** — Published by our Energy Efficiency Office, this newsletter covers energy efficiency and conservation issues and provides the latest news and developments of the department.
- \* **School Outreach Programme** — We continue with a range of school outreach programmes to promote safety and energy efficiency to students via drama performances, talks and interactive activities. As at the end of March 2007, these programmes have reached some 170,000 students at pre-school, primary, secondary and university levels.

### Volunteer Activities

Our staff volunteer regularly in a variety of community activities. Some examples are the Community Chest Walk for Millions, "Civil Device Volunteer Action" Tree Planting Day, Po Leung Kuk New Year Charity Walk and the Hong Kong Marathon 2006.

## Economic Performance

### Overview

EMSD plays two important roles in the economy of Hong Kong. We contribute to the economy by providing job and business opportunities, and purchasing of goods and services from suppliers and contractors. Both are equally important in the sustainable development context for a healthy, growing society.

### Alignment with Annual Report and Fiscal Cycle

Our economic performance is reviewed on a yearly basis through the annual reporting of the EMSTF for our Trading Services, and through the Administrative Budget for our Regulatory Services. More information can be obtained from the EMSTF Annual Report 2006/07 ([www.emsd.gov.hk](http://www.emsd.gov.hk)) and the HKSAR Government's General Revenue Account (Head 42) ([www.budget.gov.hk](http://www.budget.gov.hk)) for a complete review of our financial performance. A summary of the actual departmental expenditure is set out in Table A.

### Employees

As on 31 March 2007, EMSD employed 5,043 staff members. This represents a 2.6% increase on the previous year. Staff cost including payroll, Mandatory Provident Fund (MPF) contribution, allowance, and fringe benefit expenses for 2006/07, is set out in Table A.

### Contractors and Suppliers

We regularly work with our consultants, suppliers and contractors who support us in providing quality services efficiently and effectively to the public and our clients. For the purchase of materials and services, we strictly adhere to the procurement procedures and tender processes

Table A

#### Summary of Key Economic Indicators - Trading Services

	2004/05 (HK\$'000)	2005/06 (HK\$'000)	2006/07 (HK\$'000)
Turnover	3,050,334	3,188,878	3,292,751
Suppliers & Contractors	1,165,903	1,313,353	1,350,598
Total Payroll and Benefits/Staff Costs	1,513,436	1,525,209	1,541,946
Taxation (notional)	60,731	57,520	56,566

#### Summary of Key Economic Indicators - Regulatory Services

	2004/05 (HK\$'000)	2005/06 (HK\$'000)	2006/07 (HK\$'000)
Suppliers & Contractors	47,073	46,142	56,988
Total Payroll and Benefits/Staff Costs	171,906	163,378	163,569

for various types of contracts according to the guidelines set by the Development Bureau (Works) and the Government Logistics Department. The estimated expenses on contractors and suppliers in 2006/07 were approximately \$1,407 million, or 45% of our departmental operating expenditures.

### Economic Efficiency

#### Process Improvement

Our Work Improvement Teams (WITS) and Business Process Improvement Teams (BPI) are responsible for reviewing and enhancing work processes throughout the organisation. In 2006/07, a total of 81 work improvement projects – all spearheaded by these teams – were completed, resulting in an estimated savings of over \$2.4 million per annum.

#### Research and Development

Our quest for creativity and innovation is almost as important as our aspiration to quality

1. EMSTF 10th Anniversary & Technology Exhibition
2. Technology Centre



excellence. Being an engineering service provider, we believe that the capability to come up with new ideas is key to our business development and growth. Taking a proactive approach in research and development allows us to aspire to more efficient solutions to meet the needs of our clients and to contribute to the sustainable development of Hong Kong.

Our Technology Centre, newly established in February 2007, aims to gather information on the latest technologies in the market and conduct thorough studies to identify any possible benefits to customers' operation. EMSD can also make use of this platform to transform its own research results into services or products, whilst customers can collaborate with the department to develop efficiency enhancement plans based on their special needs.

## Future Targets and Initiatives

### Environmental Targets

- We strive to achieve another 1.5% and 2.5% reduction in electricity and paper consumption respectively in 2007/08.
- We shall continue to assist our customers to achieve their energy saving targets by providing the best engineering consultancy and services.
- We strive to achieve “zero” legal or statutory non-compliance in all our divisions and sub-divisions.
- We shall develop an action plan which aims to implement the commitments made in the Clean Air Charter and report our achievements in the next report.

### Social Targets

- We continue to ensure open and effective communication with all our staff through existing channels such as staff union meetings and joint consultation committees.
- Our existing Occupational Health and Safety Management System will be upgraded to OHSAS 18001:2007, with the transition to be completed by 1 July 2009.
- We aim to continue to achieve a minimum of 4.5 training days per staff per year on average.
- The Volatile Organic Compounds (VOC) Regulation has come to effect on 1 April 2007. We planning to review the materials and products used when rendering our services with a view to further reducing VOC emissions.

### Economic Targets

- We shall continue to contribute to the healthy development of the Hong Kong economy in three major aspects: providing jobs and business opportunities, training and grooming professionals and skilled labour, and purchasing goods and services from suppliers and contractors.
- We shall develop new business on energy efficiency and IT projects, as an ongoing effort to provide a comprehensive range of professional and quality services to our customer departments and organisations, and hence ultimately to the general public.

# Summary of Statistics

(Commencing from 2005, we have transitioned from calendar-year reporting to fiscal year reporting in order to correspond our fiscal-year based financial reporting)

Resource	2002	2003	2004	2005/06	2006/07
	← (12 months ended 31 December) →			← (12 months ended 31 March) →	
Electricity (kWh)	8,424,778	8,486,456	7,686,634	15,020,621*	13,662,720*
Towngas (MJ)	1,324,416	1,528,464	1,426,368	764,880	485,760
Water (m <sup>3</sup> )	93,335	134,603	86,717	87,935	83,649
Gasoline (l)	N/A	N/A	N/A	N/A	92,099
Diesel (l)	N/A	N/A	N/A	N/A	726,847
Paper - A3, A4 (ream)	30,387	30,349	28,386	29,216	30,547
Envelope (no.)	346,510	435,664	259,719	180,827	208,068
Paint & Solvent (l)	11,526	9,137	35,561	15,643	32,315
Kerosene (l)	--	324	--		
Lubrication Oil (l)	144,660	90,682	126,744	116,274	78,022
Grease (kg)	1,579	760	2,257	1,585	2,015
Refrigerant (kg) (e.g. R22 & R134a)	23,849	19,357	17,776	20,171	18,708
Industrial Gas (m <sup>3</sup> ) (e.g. Oxygen, Argon & Acetylene)	2,361	2,577	3,240	2,279	3,988
Sulphuric Acid*	--	--	--	31	20
Battery Electrolyte (l)	2,924	1,882	3,385	2,625	2,715
Tubeless Tyre (no.)	9,405	9,886	11,917	10,065	8,696
Outer Cover Tyre (no.)	1,743	2,026	1,774	2,591	2,872
Inner Tube (no.)	1,805	733	1,277	1,470	1,521

Emissions, Effluents and Waste					
Waste Paper (kg)	27220	32,256	24,352	24,841	24,140
Toner Cartridges (no.)	1,355	1,594	1,567	1,546	2,024
Batteries (kg)	3,335	3,812	3,436	3,373	3,368
Metal Scraps (kg)	59,110*	36,040	40,610	38,240	36,557
Waste Oil (kg)	169,857	146,300	138,020	138,024	79,991
Used Vehicle Tyre (no.)	507,420	469,440	501,120	9,904	11,123

Staff					
Number of Accidents per 1,000 Staff (reportable) #	10.77	9.12	9.10	8.84	6.19
Customer Satisfaction (out of a score of 8)	5.77		5.97		6.05
Training (average training days/staff)	6.32	4.15	4.7	6.05	6.36

\* Upon relocating to Kowloon Bay in 2005, the original baseline was revised to 16.03 GWh for 2005/06 and 13.95 GWh for 2006/07 onward taking into account parallel operations of the both old and new headquarters in 2005/06 and with due consideration of other government buildings by benchmarking their consumptions.

# Figures in fiscal year

# Independent Verification

## Verification Statement



BMT Asia Pacific Limited (BMT) was commissioned by the Electrical and Mechanical Services Department (EMSD) to verify the contents of the Department's web-based Social and Environmental Report 2006/07 (hereinafter the "Report"). The Report describes the environmental, as well as social and economic performance of EMSD during the fiscal year of 2006/07.

### Objectives

The verification intends to provide EMSD's stakeholders with an external assurance of the accuracy and completeness of information presented in the Report.

This Statement is issued based on:

- Independent third party opinion – BMT was not involved in any aspects of Report preparation; and
- The findings of a verification process that involved validating representative data and claims, checking data collection mechanisms and information management systems, assessing the Report's comprehensiveness, and identifying areas to improve EMSD's reporting process.

### Approach

During the verification process, an interview was held on 28<sup>th</sup> November of 2007 with EMSD's representative. BMT reviewed the selected claims and reported figures, examined and checked supporting data and documented evidence, as well as data collation systems. Where further investigation was necessary to confirm claims, additional information was requested and reviewed.

### Results and Commentary

#### **Report Accuracy**

- The claims made in the Report represent an accurate account of EMSD's actions and performance in 2006/07. For some minor outstanding claims and figures that were deemed questionable or unclear during the verification, EMSD has made clarifications or amendments to BMT's satisfaction; and
- EMSD has developed an effective data collection mechanisms and information management systems, they are considered to be reliable, efficient, and organised. Data were systematically collected, recorded, filed and analysed following prescribed methodologies. Specific data used to support claims and compile reported figures were correctly retrieved and appropriately interpreted.

#### **Report Coverage and Relevance**

- The Report provides a balanced overview of EMSD's performance in 2006/07 with respect to its roles and responsibilities in Hong Kong, significant aspects related to daily operations and services, key programme areas and relevant projects.
- EMSD's ongoing measures to address impacts from its own operations and services on the Hong Kong community were clearly set out in the Report. EMSD has graphically presented the major year-on-year trends in environmental performance, and provided at-a-glance overview of achievements for 2006/07, and future targets.

## Recommendations for Future Reports

EMSD is encouraged to:

- Continue to engage with stakeholders in the reporting process, and provide more information on how stakeholders' comments regarding this Report are addressed in the next report.
- Expand the reporting scope to include the sustainability performance of EMSD services and supply chain management, such as green initiatives of services provided to clients, and achieving a positive influence on suppliers and contractors.
- Further enhance the presentation of achievements in environmental, social and economic performance, for example introducing case studies, providing linkage to related information and appraising the target achievements for the reporting year.
- Continue moving towards sustainability reporting to adopt the application level of the internationally recognised Global Reporting Initiative's G3 guideline, and to increase Report coverage of social performance.



Ben Ridley  
Director  
BMT Asia Pacific Limited

# Appendix - Major GRI Indicators

Indicators		GRI Reference (Included)	GRI Reference (Not Included)	Page Reference
<b>Strategy and Analysis</b>				
		1.1,1.2		2, 3, 4, 20
<b>Organisational Profile</b>				
		2.1-2.10		2, 4, 6
<b>Report Parameters</b>				
<b>Report Profile</b>		3.1-3.4		Inside cover page, 24
<b>Report Scope and Boundary</b>		3.5 - 3.6, 3.7 - 3.10		Inside cover page
<b>GRI Content Index</b>		3.12		24
<b>Assurance</b>		3.13		22
<b>Governance, Commitments and Engagement</b>				
<b>Governance</b>		4.1-2, 4, 8-10, 4.3, 5-7		5
<b>Commitments to External Initiatives</b>		4.11, 4.12, 4.13		4, 6
<b>Stakeholder Engagement</b>		4.14 - 4.16, 4.17		6
<b>Management Approach and Performance Indicators</b>				
<b>Economic</b>	Economic Performance	EC1,EC3	EC2, EC4	18
	Market Presence		EC5, EC6, EC7	
	Indirect Economic Impacts		EC8, EC9	
<b>Environmental</b>	Materials	EN1, EN2		9, 21
	Energy	EN3, EN5,	EN4	8, 21
	Water	EN8, EN10	EN9	9, 21
	Biodiversity		EN11- EN15	
	Emissions, Effluent and Waste	EN16, EN20, EN22	EN17-19, 21, 23-25	10, 21
	Products and Services	EN26	EN27	11
	Compliance	EN28		11
	Transport	EN29		11
	Overall		EN30	
<b>Social</b>	Human Rights			
	– Investment & Procurement Practices		HR1, HR2, HR3	
	– Non-discrimination		HR4,	
	– Freedom of Association & collective Bargaining	HR5		14
	– Child Labour		HR6	
	– Forced & Compulsory Labour		HR7	
	– Security Practices		HR8	
	– Indigenous Right		HR9	
	Labour Practices and Decent Work			
	– Employment	LA1	LA2, LA3	14
	– Labour/Management Relations		LA4, LA5	
	– Occupational Health & Safety	LA6, LA7	LA8, LA9	14, 15
	– Training and Education	LA10, LA11	LA12	15
	– Diversity & Equal Opportunity	LA13	LA14	14
	Society			
	– Community	SO1		8-13, 16-17
	– Corruption		SO2, SO3, SO4	
	– Public Policy		SO6	
	– Anti-competitive Behavior		SO7	
– Compliance		SO8		
Product Responsibility				
– Customer Health & Safety	PR1	PR2	16	
– Product & Service Labelling	PR5	PR3, PR4	6,16	
– Marketing Communications		PR6, PR7		
– Customer Privacy		PR8		
– Compliance		PR9		

Fully Included, Partially Included, Not Included

## Feedback Form

Thank you for reading our Environmental Report 2006/07. To help us improve future editions of our Environmental Report, we would be grateful to have your comments:

1. Which aspect of the report do you find most informative?

	Inadequate		Acceptable		Very Informative
	1	2	3	4	5
a. About this Report	<input type="checkbox"/>				
b. Introduction	<input type="checkbox"/>				
c. Environmental Performance	<input type="checkbox"/>				
d. Social Footprint	<input type="checkbox"/>				
e. Economic Footprint	<input type="checkbox"/>				
f. Summary of Statistics	<input type="checkbox"/>				

2. Does the report enable you to understand more about EMSD's performance on environmental issues?

Yes	No	No Comment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Overall, how would you rate our report?

Poor	Good		Excellent	
1	2	3	4	5
<input type="checkbox"/>				

4. Other comments and suggestions, please specify.

5. How can we convey our feedback to your comments/suggestions? (Please provide email or contact detail for us to follow up.) - Optional

Please return feedback form to:  
 Quality and Research Manager  
 3 Kai Shing Street, Kowloon, Hong Kong  
 Fax: (852) 2882 1574  
 Email: QRSD@emsd.gov.hk



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