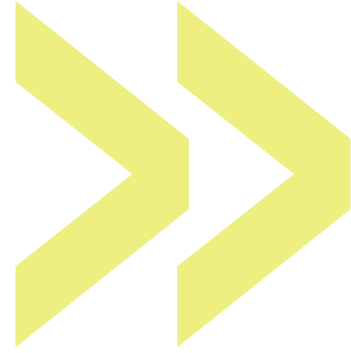
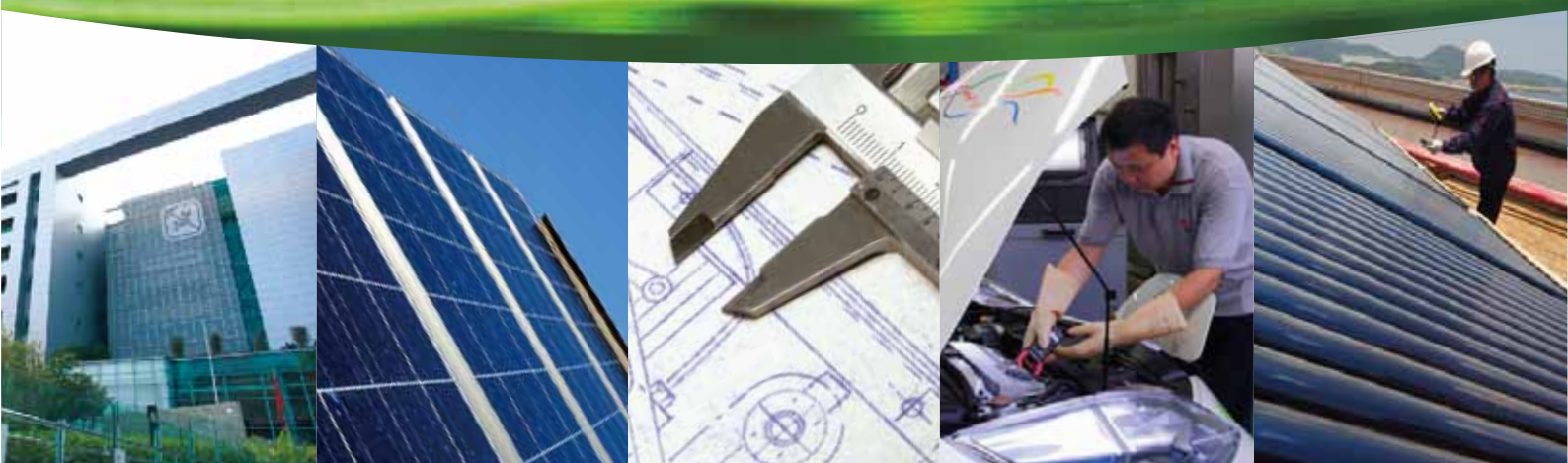


2010/11
Social and
Environmental
Report



Engineering Support for a Sustainable Future



About this Report

This is the annual publication of the Electrical and Mechanical Services Department (EMSD) reporting on its annual performance in environmental, social and economic aspects. This report also serves as a communication platform between EMSD and its stakeholders regarding its role in the sustainable growth of Hong Kong and the journey towards low carbon living.

Reporting Scope and Boundary

This report covers the operations of EMSD in Hong Kong from 1 April 2010 to 31 March 2011. All data are presented as absolute figures and cover the geographic locations in which EMSD operates. Data on priority issues have been normalised into comparable terms where appropriate and practical. All monetary terms are in Hong Kong dollars.

Reporting Principle

This report makes reference to the Global Reporting Initiative (GRI) G3 Guidelines. A GRI Content Index is provided at the end of this report for easy reference.

An independent verification statement of this report is also attached at the back.

TABLE OF CONTENTS



About this Report	01
About EMSD	03
• <i>Vision, Mission and Values</i>	
• <i>Organisational Profile</i>	
• <i>Organisational Structure</i>	
• <i>Corporate Governance</i>	
• <i>Stakeholder Engagement</i>	
Director's Message	07
Challenges and Opportunities	11
Highlights and Way Forward	13
Environmental Performance	15
Social Performance	24
Economic Performance	35
Awards and Recognition	38
GRI Indicator Index	40
Summary of Statistics	41
Independent Verification Statement	42
Feedback Form	43



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 improve the quality of life for our community through continuous enhancement of our electrical and mechanical engineering services.

MISSION

- Customer
Providing quality engineering solutions to satisfy our customers' needs.
- Staff
Developing a competent workforce and maintaining a harmonious environment.
- Organisation
Keeping pace with technology development and process improvement for service enhancement.

VALUES

Integrity
Service excellence
Caring
Customer focus
Commitment

Organisational Profile

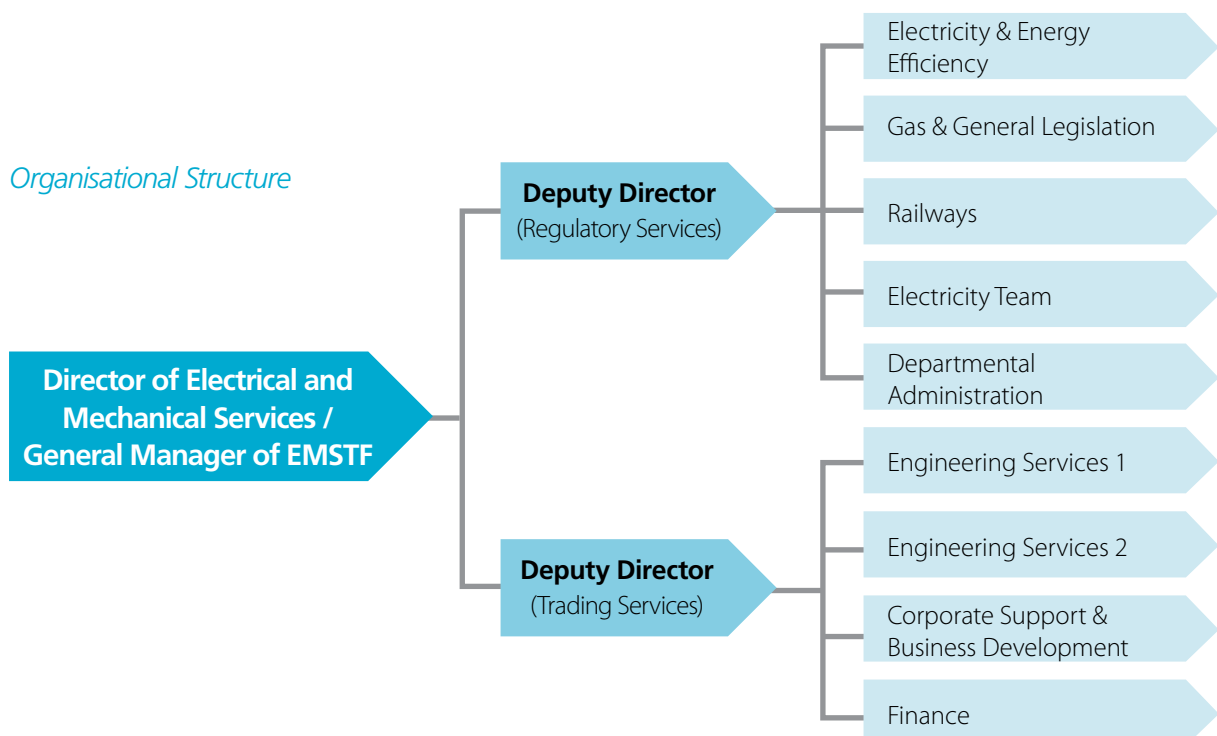
The Electrical and Mechanical Services Department (EMSD) plays a dual role. Its Regulatory Services (RS) implements a regulatory framework to ensure the safety of the public in electrical, mechanical and gas engineering areas, railway safety, as well as energy efficiency, via enforcement of safety and energy efficiency ordinances, and public education. At the same time, its Trading Services, known as the Electrical and Mechanical Services Trading Fund (EMSTF), delivers electrical, mechanical, electronic engineering and building services to government departments and public institutions in Hong Kong.

To ensure E&M safety for the community, the RS issues Guidelines and Codes of Practice and administers various safety ordinances on the safe use of gas, electricity, lifts and escalators, railways, tramways, peak tram and amusement rides, among others. At the same time, we are actively involved in promoting energy efficiency and the protection of the environment

through services and activities both for our customers and the community, as well as administering Hong Kong's first energy efficiency ordinance. We also give extensive professional and technical support to the Government's environmental initiatives in the form of various voluntary and mandatory energy efficiency schemes, studies on renewable energy sources in Hong Kong, compilation of energy consumption data, introduction of ecofriendly vehicles, and preparation of energy efficiency related legislation.

In serving our customers, the EMSTF provides one-stop value-added engineering and maintenance services to ensure that the many systems that keep Hong Kong up and running continue to do so effectively and efficiently. We serve the airport, hospitals, schools, security forces, transport and highways, port and harbour, government offices and law court buildings as well as public recreation and leisure facilities, areas that make up the very fabric of life in Hong Kong.

Organisational Structure



Corporate Governance

EMSD is a government department of the Hong Kong Special Administrative Region (HKSAR) with a clearly defined organisational structure. The structure for corporate governance is depicted in the figure below.

Various legislation, policies, circulars and instructions are in place to govern our organisational practices. For the Regulatory Services, its operation is governed by the following:

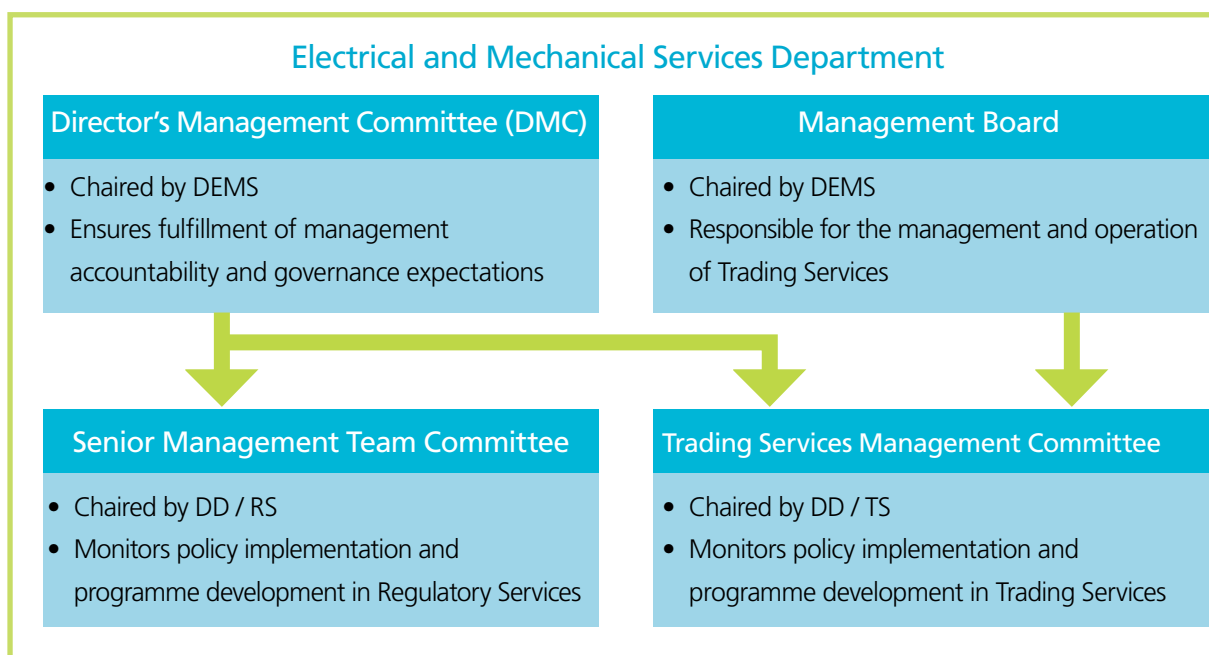
- Public Finance Ordinance
- Finance and Accounting Rules
- Relevant legislations governing EMSD's regulatory and law enforcement work in electrical, gas,

mechanical and railway safety as well as energy efficiency

The following are of major importance to the operation of EMSTF business and activities:

- 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.



Stakeholder Engagement

As a government agency, our stakeholder groups include customers, policy bureaux, staff, regulated trades, industry and business organisations, suppliers and contractors, professional and trade associations and the general public.

Given the varied nature of our stakeholders, we have developed different communication programmes to cater for their different needs. Our communication channels include annual reports, websites, publications such as E&M Safety Newsletter, Electricity News, Gas Safety Bulletin, EnergyWits, VoiceLink and GroupVoice, customer liaison groups, staff consultative committees, staff newsletter, regular consultations with trade associations and professional institutions, and ongoing electrical and mechanical safety and energy efficiency publicity, promotion and community outreach programmes.

Furthermore, our 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 participating in international engineering organisations, as part of the effort to upkeep the high standards of the engineering profession in Hong Kong.

"EMSD is privileged to have taken on the role of pioneering energy efficiency education and implementing energy efficiency programmes in Hong Kong, in addition to the other engineering and regulatory services we provide to the community."



Frank F Chan

Director of Electrical and Mechanical Services

Green living is now the aspiration of many communities and economies worldwide and Hong Kong is no exception. In recent years, the Government has embarked on numerous initiatives to facilitate and encourage energy consumption reduction. EMSD is privileged to have taken on the role of pioneering energy efficiency education and implementing energy efficiency programmes in Hong Kong, in addition to the other engineering and regulatory services we provide to the community.

This Social and Environmental Report gives an overview of our environmental, social and economic performance from 1 April 2010 to 31 March 2011. The report also highlights how we have endeavoured to leverage all aspects of our work to engineer support for a sustainable future in Hong Kong. We hope you share our excitement in the many milestones we have reached during the year.

Energy Efficiency Milestones for Hong Kong

The year 2010/11 saw two milestone developments in Hong Kong's energy efficiency legislative work. One was the approval of phase two of the Mandatory Energy Efficiency Labelling Scheme (MEELS) to include washing machines and dehumidifiers, bringing the total number of product types covered by the scheme to five. Full implementation of phase two is scheduled to commence in September 2011.

The other milestone was the enactment of the Buildings Energy Efficiency Ordinance in late 2010. Being the first building-related energy efficiency legislation in Hong Kong, it is scheduled for full implementation in September 2012. Buildings account for around 90% of total electricity consumed in Hong Kong and some 60% of the city's greenhouse gas emissions. The Ordinance will go a long way towards helping Hong Kong achieve significant energy savings.

"...our Trading Services will continue to work with client departments to implement diverse green solutions to make their venues and operations more energy efficient and sustainable."



Green Solutions for Client Departments

Our Trading Services also seek to deploy green solutions wherever possible in the day-to-day work for client departments, such as pro-actively assisting clients in deploying green and energy efficient solutions as well as renewable energy systems. These include the installation of energy efficient lighting and air-conditioning systems, installation of facilities for schools participating in the green lunch initiatives, installation of solar water heaters, and monitoring the operation and maintenance of the Kowloon Bay Waste Recycling Centre for composting and recycling food waste. We have also been entrusted by the Environment Bureau to test and procure new electric vehicles (EV) and install EV charging facilities at government car parks.

During the year, our Trading Services have implemented a number of measures to reduce energy consumption of our data centre. We have reviewed the utilisation pattern of the servers and switched off more than 20 physical servers. We have also implemented more than 35 virtual servers that help further reduce energy consumption of physical server system. At the same time, we are working

closely with the Office of the Government Chief Information Officer on the review of data centre site preparation guidelines with a view to raising the ambient temperature of data centre, thus reducing energy consumption of the air conditioning system supporting the data centre.

Social Responsibility

As a caring and responsible corporate citizen, our responsibility is not limited to maintaining a green and healthy environment for our client departments and the public, but also to provide a safe and healthy environment for our employees and other parties working for us.

Workplace safety is one of our priority areas as we strive to discharge our social responsibility towards our employees. During the year, we set up a new Steering Committee on Occupational Safety and Health, comprising senior management of Trading Services. The Committee aims to oversee the implementation of in-house and contractor safety initiatives in order to further reduce accident rates.

We also recognise the need to build and enhance the capacity of our staff through continuous learning and development. Training and staff development are spearheaded by our Human Resources Management Committee that meets regularly to review training programmes and initiatives, including the operation of our well-established Graduate Training Scheme and Apprentice Training Scheme. I am glad that further to 2009, our apprentices have again won awards from VTC in 2010 for their outstanding performance during their training.

Community service is an important part of giving back to society, and the Department is fully supportive of employees' participation in charitable and voluntary work, such as charity walks and cultural performances at community events. From time to time, we also go a step further to work proactively with the trade and utilities to directly serve the public, such as expediting the restoration of electricity supply in affected buildings and areas after the fire at Fa Yuen Street market stalls in December 2010.

Looking Ahead

Building on our work in 2010/11, we shall further expand various initiatives that contribute to sustainable development. On the energy efficiency and environmental front, the implementation of the MEELS and Buildings Energy Efficiency Ordinance will continue to be a focus. The regulatory work of fresh water cooling towers and the implementation of the District Cooling System project at Kai Tak Development will also be pressing ahead. At the same time, our Trading Services will continue to work with client departments to implement diverse green solutions to make their venues and operations more energy efficient and sustainable.

In the area of social responsibility, our efforts to enhance occupational safety and health, as well as staff training and development will continue. As in past years, the Department will continue its support for charitable work and community service.

Thanks to Stakeholders

Hong Kong is transitioning into an energy efficient and low-carbon city and every individual and organisation here has a part to play in this historic shift. This report describes EMSD's efforts towards this future and is part of an ongoing dialogue with our stakeholders. We hope it will stimulate new ideas and discussions.

Finally, I would like to thank our stakeholders for their support without whom neither our work nor this report would have been possible.



Frank F Chan

Director of Electrical and Mechanical Services

Impact of Sustainability on the Organisation

As an international city, Hong Kong must maintain its economic growth in a fast-paced knowledge economy while at the same time improve the quality of life for its citizens. From a sustainability perspective, this means that organisations such as EMSD must find the most eco-friendly way to conduct its daily activities so that resources are used in an optimal manner with the least possible waste and pollution. Equally important is that the safety, health and general well-being of its employees, customers and other stakeholders must be well taken care of. At the same time, we must also identify and make full use of business opportunities arising from sustainable development.

Impact on Regulatory Services

The impact of sustainable development on our Regulatory Services is no less significant. Both international bodies and local policy makers call for priority attention to sustainability issues such as emissions control and energy intensity reduction. As a member of the Asia-Pacific Economic Cooperation (APEC), Hong Kong fully supports the APEC Leaders' Declaration on Climate Change, Energy Security and Clean Development adopted in Sydney in 2007, and will seek to reduce at least 25% of energy intensity by 2030, with 2005 as the base year.

The strain imposed on natural resources by economic growth, human population and climate change has prompted many leaders around the world to focus on ways to create more sustainable models for economic growth and development, which could lead to more stringent emission control regulations.

The challenge for our Regulatory Services is to keep abreast of current international developments and help the Government create an energy efficiency regulatory framework that is conducive to the transformation of Hong Kong into an energy efficient and low carbon economy.

As more energy efficiency legislation are enacted and implemented, our enforcement work will also grow. At the same time, our trades and citizens will need more information and awareness building with regard to energy efficiency and conservation as well as renewable energy, further boosting our public education work. We shall also step up our internal capabilities to perform these duties more effectively and, at the same time, introduce where appropriate state-of-the-art energy efficiency technologies into Hong Kong.

Impact on Trading Services

A potential threat to our service viability is the likely fluctuation in revenue as a result of continued instability in the current global economic climate, as well as the threat of inflation that could add to our operating cost. In response, we have continued to take prudent cost control measures, stepped up productivity by various means such as increasing staff training and better use of information technology, reviewed and enhanced resource management, and secured more long-term agreements with client departments to add stability to our service.

As to opportunities, an obvious area is client departments' increasing demand for our energy management, energy saving and renewable energy project services. Further energy saving opportunities will also come from the Government's commitment

to its Green Building Framework which aims to reduce electricity consumption in all bureaux and departments by a total of 5% from 2009/10 to 2013/14 against the base year of 2007/08. The Chief Executive has also reiterated in his 2010/11 Policy Address that he expects the carbon intensity in Hong Kong to be reduced by 50-60% by 2020, compared with the 2005 level. The newly enacted Buildings Energy Efficiency Ordinance and the release of the Government's climate change action agenda are set to create greater demand for energy efficiency services. Overall, the energy management service is likely to grow in the long run as client departments become increasingly aware of both the economic and environmental benefits of energy efficiency and conservation.

Organisation's Impact on Sustainability

Impact of Regulatory Services

Our Regulatory Services makes a positive impact on sustainability via various schemes, promotional campaigns and awards to promote energy efficiency and the wider use of renewable energy, as well as the enforcement of energy efficiency related legislation. Notable examples are the voluntary and mandatory Energy Efficiency Labelling Schemes for electrical appliances, the Fresh Water Cooling Towers Scheme for Air-conditioning Systems and the Energy Efficiency Registration Scheme for Buildings, and enactment of the Buildings Energy Efficiency Ordinance. Extensive publicity and education programmes such as TV and radio promotion, online activities and websites, publications, events, as well as talks and seminars are held for trades and the general public throughout the year to build awareness of an energy efficient lifestyle.

Impact of Trading Services

EMSD makes an impact on sustainability in several ways. Our Trading Services provides E&M engineering services to government departments and public bodies in Hong Kong, a process which inevitably impacts upon the environment through our office operations and engineering related works.

To mitigate the impact, we have adopted an Integrated Management System that combines quality, environmental, occupational health and safety management systems as an overall process framework and to identify non-compliances for improvement. At the same time, we also make a positive impact through providing professional engineering services in energy efficiency and renewable energy projects to client departments that directly reduce energy consumption and emissions. We give professional advice and support to clients in the procurement of eco-friendly vehicles and provide on-going maintenance service. We also give technical support to the Environment Bureau to promote the Buildings Energy Efficiency Funding Schemes and vet applications from private buildings owners for partial subsidies to conduct energy-cum-carbon audits and energy efficiency projects. In addition, we support the "green lunch" initiative by providing necessary facilities in schools for Environment Bureau.

Environmental

Highlights

1. The 2nd phase of the Mandatory Energy Efficiency Labelling Scheme extends its coverage to two more electrical appliances, namely washing machines and dehumidifiers, and commenced on 19 March 2010 with an 18-month grace period before full implementation begins.
2. Under the Voluntary Energy Efficiency Labelling Scheme, the energy label for television has been changed from "Recognition Type" to "Grading Type" since March 2011. The label measures the television's energy performance based on its "on-mode" power consumption. (The energy efficiency grading consists of 5 grades with "Grade 1" being the most energy efficient.)
3. The Buildings Energy Efficiency Bill for mandatory implementation of the Building Energy Code was passed by LegCo in November 2010 and subsequently gazetted as the Buildings Energy Efficiency Ordinance in December 2010, which will come into full operation on 21 September 2012.
4. Introduced a new regulatory control regime for fresh water cooling towers in January 2011 with delegated powers under the Public Health and Municipal Services Ordinance (PHMSO) to reduce the potential public health risk of spread of Legionnaires' disease that might arise from cooling towers.
5. Construction work for the energy efficient District Cooling System at Kai Tak Development is underway.
6. Completed 124 energy efficiency projects (e.g. installation of energy efficient lighting and air-conditioning systems, and installation of high efficiency oil-free centrifugal chillers) in 2010/11 for Trading Services customers with expected annual energy savings of almost 12 million kWh after completion.

Way Forward

1. Prepare for the full implementation of phase 2 of the Mandatory Energy Efficiency Labelling Scheme in September 2011.
2. Prepare for the extension of the Voluntary Energy Efficiency Labelling Scheme to LED lamps.
3. Prepare for the implementation of the Buildings Energy Efficiency Ordinance in September 2012.
4. Conduct annual water sampling of 800 fresh water cooling towers in 2011/12 and implement regulatory control of contaminated cooling towers under the PHMSO.
5. Continue to implement the District Cooling System project at Kai Tak Development.
6. Continue to implement energy saving projects for Trading Services customers in 2011/12.
7. Continue to reduce annual electricity consumption at EMSD venues by a total of 5% from 2009/10 to 2013/14 against the base year FY 2007-08.

Social

Highlights

1. Established the Steering Committee on Occupational Safety and Health in June 2010.
2. Achieved an average of 4.86 annual training days per staff member.
3. Organised the International Symposium on Electrical and Mechanical Safety and Energy Efficiency in January 2011.

Way Forward

1. Continue to improve staff safety awareness through organisation of various occupational safety and health promotional programmes.
2. Continue to accomplish at least 4.5 training days per staff member per year on average
3. Strive to raise the staff satisfaction level in the Staff Satisfaction Survey to be held in November 2011

Economic

Highlights

1. Achieved Return on Revenue (ROR) at 12.7% for the Trading Fund
2. Supported the economy by letting out contracts totaling more than \$1.85 billion for the provision of goods and services

Way Forward

1. Prepare for new business opportunities arising from the increasing demand for our energy management, energy saving and renewable energy project services



Environmental Performance

Creating sustainable
development solutions



Environmental Responsibilities

One of the underlying principles of EMSD's operations is to enhance the quality of life of our community. However, our operations may also impact the environment in the course of rendering services to customers and the public.

Our first priority is therefore to avoid creating environmental pollution, or reduce the impact if pollution is inevitable. We strive to conserve resources, minimise the generation of waste and prevent pollution in our business operation process. To achieve this goal, we have taken all reasonable measures to comply with green legislations as the baseline of our operation. We also encourage our contractors, suppliers and their staff to be equally friendly to the environment.

Environmental Management System

Our environmental performance is mainly governed by our Environmental Management System (EMS) which has evolved over the years. First implemented in the mid-1990s, the EMS was a decentralised management framework which required each division to ensure that its operations comply with internationally recognised standards and legislative requirements in Hong Kong.

In 2000, we took a step forward and became the first government agency to attain the ISO14001 Corporate Certificate. In 2002, we streamlined our various management systems in quality, environment and occupational health and safety, and combined them into an Integrated Management System (IMS). In June 2006, the EMS was also upgraded to ISO14001:2004. In 2008, the EMS of Regulatory Services has also been extended to cover the Railways Branch such that EMSs are operating at all

branches of EMSD. We review the IMS regularly to ensure that it conforms to the ISO14001 standards.

In 2009/10, all OHSAS 18001 certificates under EMSTF were successfully updated to the 2007 version and in 2010/11, all individual divisions have also been upgrading their ISO 9001 system to the 2008 version.

Energy Efficiency Conservation Initiatives

Ever since the 1990s, EMSD has been playing a pioneering role to promote energy efficiency and encourage wider use of renewable energy in Hong Kong.

The Asia-Pacific Economic Co-operation (APEC) Leaders' Declaration on Climate Change, Energy Security and Clean Development was announced at the APEC Leaders' Meeting held in Sydney in September 2007. It calls upon APEC economies to achieve a reduction in energy intensity of at least 25% by 2030 (with 2005 as the base year). As a member economy of the APEC, Hong Kong has adopted the declaration and has been doing its best to meet the reduction target in energy intensity.

Highlighted below are key developments in 2010/11 to support Government's policy to step up energy efficiency and conservation.

Mandatory Energy Efficiency Labelling Scheme

The initial phase of the Mandatory Energy Efficiency Labelling Scheme has been in full implementation since 9 November 2009. All three product types under this phase, namely room air conditioners, refrigerating appliances and compact fluorescent

lamps, are now required to bear energy labels to inform consumers of their energy efficiency performance. As at the end of March 2011, around 3,600 product models have been listed under the Scheme. The second phase of the Scheme extends the coverage to two more electrical appliances, namely washing machines and dehumidifiers, and commenced on 19 March 2010 with an 18-month grace period before full implementation for the trade to make necessary preparations.

Buildings Energy Efficiency Ordinance

The Buildings Energy Efficiency Ordinance was passed by LegCo in November 2010, and will come into full operation on 21 September 2012. Requirements for compliance with the Building Energy Code in new building construction and major retrofitting works and conduction of energy audit for commercial buildings will be enforced after the current grace period. To support the full implementation of the Ordinance, registration of Registered Energy Assessors has commenced in March 2011. Preparation works for full implementation of the Ordinance are now in progress. As the Ordinance applies to most government buildings, it will also generate additional activities for EMSTF's client departments.

Building Energy Efficiency Funding Schemes

The EMSTF has been providing professional support to the Environment Bureau (ENB) since April 2009 on implementing the Buildings Energy Efficiency Funding Schemes of a total sum of \$450 million under the Environment and Conservation Fund, and also assisting it in vetting funding applications. The Schemes aim to help building owners conduct energy-cum-carbon audits of their buildings to

identify areas for improvement, and implement projects to upgrade the energy efficiency performance of building services installations.

District Cooling System

The District Cooling System (DCS) at the Kai Tak Development is under construction. In general, DCS will consume up to 35% less electricity than traditional air-cooled air-conditioning systems. It is estimated that upon completion of the Kai Tak Development, the DCS will save up to 85 million kWh of electricity annually, equivalent to a reduction of 59,500 tonnes of carbon dioxide emission per annum.

Green Procurement

Green procurement is one of our key policies to encourage waste reduction, recovery and recycling. The Government amended its procurement regulations as early as 2000 to require all bureaux and departments to take into account environmental considerations when procuring goods and services. In this regard, we have been doing our part by incorporating green requirements, particularly the inclusion of a trade-in option of used equipment as far as practicable, into our procuring policy for products and services, and in accordance with the Environmental Protection Department's "green product specifications". We keep track of the offers from suppliers for the green contents of their products. Once it comes to our knowledge that competitive offers are available that can meet the "desirable" green specifications, we will change the requirements to "mandatory" in the related procurement exercise to be in line with market practice, and to encourage suppliers to produce more green items.

At the same time, we also supported our clients by helping them to implement energy efficiency and renewable energy projects, as well as procure environmental friendly vehicles such as hybrid vehicles and electric scooters.

Furthermore, a Working Group on Green Procurement in E&M Works was set up in March 2010 with an objective to oversee the identification of green materials and product, systems and construction methodologies in E&M works. The Working Group also examines the implications of

new green technologies with a view to promoting them in E&M works, so as to benefit our clients and the public.

To facilitate effective sharing of green procurement information and project experiences within the Department, a green procurement reference library was launched on EMSD's Intranet in July 2010. The library covers current guidelines, codes of practice and standards relating to energy efficiency products and installations, as well as general specifications for green products.

Green Projects for Clients

EMSD's Trading Service arm has been assisting clients in identifying energy saving opportunities and implementing green projects to enhance energy efficiency and the use of renewable energy. During the year, we have completed 124 energy efficiency projects for government bureaux and departments, such as the replacement of lighting with T5 lighting fixtures, replacement of air-cooled chillers with water-cooled chillers, and installation of high efficiency oil-free centrifugal chillers. It is expected that annual energy savings of about 12 million kWh will be achieved from these new installations.

Going Low carbon with EVs

Electric vehicles (EVs) feature prominently in the Government's carbon reduction initiatives as they would cut roadside pollution in Hong Kong and reduce fuel cost substantially. EMSTF has been entrusted by the Environment Bureau to test and procure EVs. The initial test results showed that EVs perform very similarly to petrol-driven vehicles in terms of both acceleration and driving torque. They can also remain switched on while idling as they do not produce emissions. Up to March 2011, a total of 22 EVs have been procured and added to the government fleet. At the same time, we have also installed 64 nos. of charging facilities at government car parks.

To further promote the wider use of EVs in the territory, a hotline was set up in January 2011 to provide professional advice to the public as well as the trade on EV matters.



Above:
EMSD test driving an EV

Left:
EV charging socket

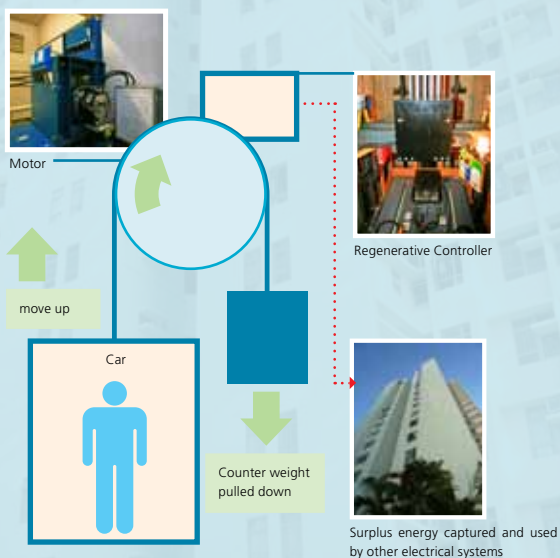
Energy Efficient Regenerative Lifts

EMSTF adopted the green elevator technology to replace the lifts at the Sheung Shui Police Married Quarters with regenerative lifts, which convert the energy generated from the lift motor driven by gravity into electricity for other uses. Compared to conventional lifts, regenerative lifts are 20-30% more energy efficient.

The Sheung Shui Police Married Quarters is the first government quarters to be installed with regenerative lifts. This energy efficient installation provides a green lift option for clients to consider.

Operating System of Regenerative Lift

(not drawn in scale)



Compost and Recycle Food Waste

The Environmental Protection Department (EPD) set up a pilot composting plant in 2008 at the Kowloon Bay Waste Recycling Centre to recycle food waste. The pilot plant was first used to treat the food waste generated at the Olympic and Paralympic Equestrian Event venues, which was followed by a one-year trial operation for recycling of source-separated food waste generated from selected commercial and industrial sectors.

In April 2010, EPD entrusted EMSTF for the improvement works as well as operation and maintenance of the plant. EMSTF also ensures the quality of the compost produced at the plant by monitoring and controlling the humidity, temperature and rotating speed of the composting units.



The Pilot Composting Plant at Kowloon Bay converts food waste into compost.



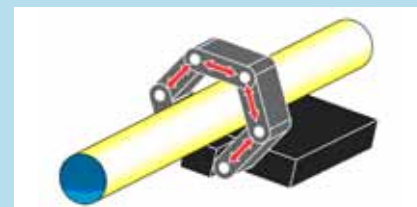
Upon completion of pre-treatment, all food waste goes to composting units for composting.

Electromagnetic Induction Descaling Device

The Energy Efficiency Office regularly monitors the international developments of energy saving technologies and keeps abreast with the latest technological trends.

During the year, we conducted a pilot project on electromagnetic induction descaling device for chiller condenser of central air-conditioning system at a government venue. With the use of this technology, mineral ions in condensing water flowing in a pipe will experience a force under an electric field generated by the electromagnetic induction device, as illustrated in the figure below, thus causing less ions available for the formation of hard scale in the inner surface of the pipe. Scaling in condenser will decrease the energy efficiency of the air-conditioning system.

In the pilot project, visual inspection found that no significant scale was found on the inner surface of the condenser after using the technology. The longer the operation hours, the more the saving in electricity consumption will be. The actual saving depends on the operation pattern and cooling load profile.



An illustration of the electromagnetic induction descaling device

International Exchange

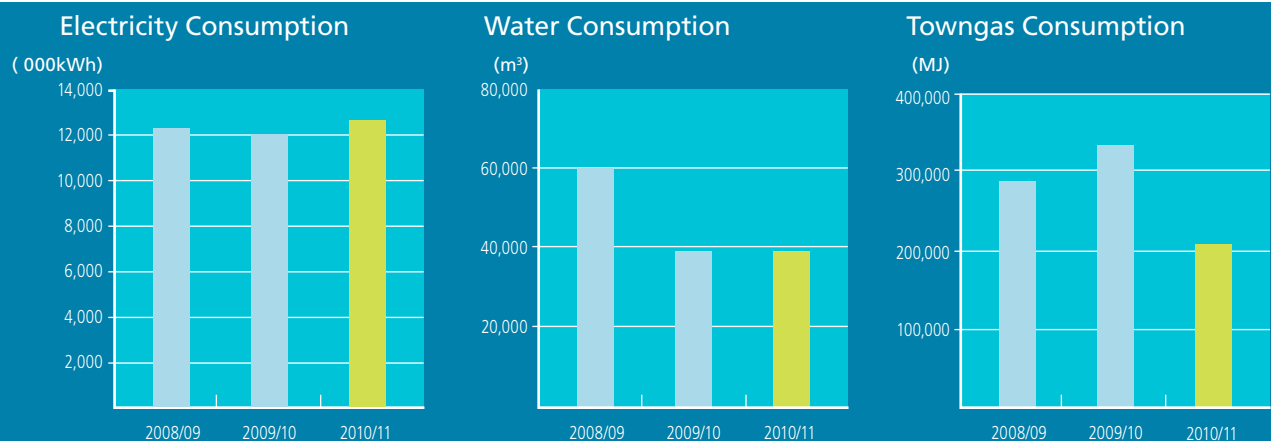
As a pioneer in promoting energy efficiency in Hong Kong, we have been active in international exchange work so as to keep ourselves abreast of the latest trends and developments worldwide. During 2010/11, EMSD representatives attended a variety of regional and international conferences and meetings, and the key ones are as follows:

- The Macao International Environmental Cooperation Forum and Exhibition, April 2010
- The APEC Standby Power Conference 2010, October 2010, Japan
- The Hong Kong Low Carbon Mission to US, May 2010
- The APEC/ASEAN Joint Workshop on Energy Statistics, Thailand, November 2010
- The 2010 Mainland and Hong Kong Construction Industry Forum in Fuzhou, China, June 2010
- The 25th World Battery, Hybrid and Fuel Cell Symposium and Exhibition, China, November 2010
- The Phase-out of Inefficient Lighting – International Workshop on Policies, Strategies and Issues, Beijing, June 2010
- The 40th Meeting of APEC Energy Working Group (EWG40), November 2010, Brunei Darussalam
- The APEC Japan 2010 Energy Ministers' Meeting, June 2010
- The Regional Conference on Environmental and Sustainability, December 2010, Macau
- The "Saving More Energy Through Compliance" 4E Conference, UK, September 2010
- The 22nd Meeting of the APEC Expert Group on Energy Data & Analysis, January 2011, Japan
- The APEC Workshop on Building Energy Codes and Labelling, September 2010, Thailand
- The APEC Workshop on Building Energy Codes and Labelling, January 2011, Hong Kong
- The 36th Meeting of the APEC Expert Group on Energy Efficiency and Conservation, September 2010, Japan
- The Road to Future Low-Carbon City, March 2011, UK

Conservation of Operational Resources

Public Utilities

Electricity, water and towngas consumption at EMSD is shown in the graphs below. Electricity consumption in 2010/11 increased by 6% compared to 2009/10 mainly due to expansion of EMSTF's data centre hosting service to other government departments. If the effect of such increased activities arising from service demand is excluded, there would be a net reduction of 3.7% in electricity consumption compared to 2009/10. Water consumption was quite close to that in the previous year. Towngas consumption reduced significantly compared to the consumption level in 2009/10 which was relatively high due to usage arising from temporary occupancy and activities of the Caroline Hill premises by other departments in the year.



Major venues include our Kowloon Bay Headquarters (including Corporate Data Centre), Caroline Hill workshop, Fan Garden Vehicle Depot, Siu Ho Wan Vehicle Depot, and the EMSD workshop in the Air Mail Centre at Hong Kong International Airport.

Water is mainly consumed for air-conditioning, gardening, drinking and cleaning. Consumption data are available for Caroline Hill workshop and Kowloon Bay headquarters.

Caroline Hill workshop is the major venue relying on towngas for water heating. Significant reduction was recorded in 2010/11 compared to 2009/10.

Materials

Materials Used in Offices

Paper and toner cartridges are the main materials used in office. We make every effort to reduce our paper consumption. In 2010/11, paper consumption dropped by 2.4% compared to the set quota. Since 2001, we have adopted the extensive use of environment-friendly recycled paper made from recycled fibre. In 2010/11, 98.4% of our total

paper consumed was recycled paper. Use of virgin paper was limited to external documents only and is avoided as far as practicable. We purchased some 3,232 toner cartridges in 2010/11 and have followed government initiatives to recycle used toner cartridges since 2005/06.

Materials Used in Workshops

We recognise that materials, parts and products used in our everyday operations impact the environment in different ways through their production, use and ultimate disposal. EMSD endeavours as much as possible to reduce the consumption of materials, and to re-condition and re-use them whenever practical in order to sustain natural resources in the long run.

Emissions, Effluents and Wastes

Reducing and Recycling of Waste

Our waste management strategy is to minimise unavoidable waste generation and maximise material recycling. Wastes are primarily generated in two streams – from our offices and from our workshops. Major wastes from offices include paper and toner cartridges, while spent mercury lamps, rechargeable batteries, metal scraps, vehicle tyres and spent fluorescent tubes are major wastes from workshops.

Emissions

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are widely acknowledged as a cause of global warming and climate change, and reducing emissions such as CO₂ is one of our biggest challenges. EMSD's GHG emissions are mainly attributed to the consumption of electricity in our offices and workshops, and transport. In 2010/11, direct emissions from our transport activities amounted to about 1,532 tonnes of CO₂ and our electricity consumption gave rise to about 8,878 tonnes of CO₂.

Transport

The use of transport in EMSD operations consumes non-renewable fossil fuels and generates GHG emissions. As of 31 March 2011, we have a fleet of 243 vehicles including lorries, vans, saloon cars and motorcycles to deliver our services, and at the same time maintain 5,671 government vehicles for our client departments. We have to ensure that emissions from such activities are reduced to a minimum by good housekeeping, proper vehicle maintenance, reduced use of transport or switching to hybrid or electric vehicles. We now have five hybrid vehicles, which consume 40% less fuel than conventional cars of similar size.

For details of our performance in other resources consumption, as well as emissions, effluents and wastes, please refer to the section "Summary of Statistics"

Photovoltaic System at EMSD Headquarters

The photovoltaic system is the signature feature of energy generation from the nature in EMSD Headquarters, with a maximum output of 350kW. Since its inception in 2005, it has been generating clean renewable energy for use at our headquarters. The total output of the system up to end March 2011 is 1.32 million kWh. The system has helped reduce GHG emissions equivalent to 924 tonnes of CO₂.

Energy Saving Measures in EMSD Data Centre

Currently, we managed two data centres located in Kowloon Bay and Siu Ho Wan, supporting over 100 IT systems for EMSD and 10 other Government Departments/Bureaux to provide 7 x 24 round-the-clock IT services both within the Government and to the public. Due to advancement in the use of information and communications technology in the government, we experienced a rapid growth of data centre services demand and thus the concern of energy consumption and energy efficiency of our data centres.

During the year, we have implemented a number of energy saving measures to reduce the electricity consumption of our corporate data centre. We have reviewed the utilization pattern of our internal systems and subsequently switched off more than 20 physical servers equipment. We have also implemented more than 35 virtual servers on a virtual server platform that help further reduce the number of physical servers and hence energy consumption. The energy saving measures implemented have resulted in electricity saving of approximately 75,000 kWhr.

Computer Room Air Conditioning (CRAC) units have been implemented to monitor and maintain the ambient temperature of our data centre. As far as practicable, the server racks have been arranged in an alternating pattern, with fronts of racks facing each other in a row to create "hot" aisles and "cold" aisles configuration, thereby ensuring cooling effectiveness of the equipment rack. Furthermore, blanking panels were installed in unused rack spaces to improve the functioning of "hot" and "cold" aisles arrangement.

In view of the rising concern on the power consumption of our data centre air-conditioning systems, we have worked closely with OGCIO on the review of "Data Centre Site Preparation Guidelines" and "Baseline Green Data Centre Practice" with a view to raising the ambient temperature of government data centre such that the power consumption for cooling the data centre could be reduced.



Operation room at Kowloon Bay Data Centre



Server racks arranged in "hot" and "cold" aisles configuration



Social Performance



Being a good corporate citizen



Social Responsibilities

Our responsibility is not limited to maintaining a green and healthy environment for our client departments and the public. As a caring and responsible corporate citizen, we also have the obligation to provide a safe and healthy environment for our employees and other parties working for us, and to comply with the relevant laws and regulations. As a government department, we operate under the HKSAR Government policy framework, especially in labour and occupational safety and health issues. Governed by the Civil Service Bureau's codes of conduct, we also provide equal employment opportunities in accordance with the law. We also encourage our staff to participate actively in various community activities.

Staff Employment and Development

Employment

At the end of 2010/11, we have 5,338 employees. As a commitment to upholding the equal opportunity employment policy, we currently have 224 employees with minor disabilities, representing about 4% of our total workforce.

Learning and Development

At EMSD, we recognise the need to continually enhance the capabilities and competitive strengths of our staff 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. 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 Human Resources Management 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 and initiatives.

Graduate Training Scheme

Since its inception in the 1960s, our Engineering Graduate Training Programme has attracted more than 700 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 2010/11, we recruited 17 engineering graduates specialising in electrical, mechanical, electronics, building services, information technology and biomedical engineering.

Apprentice Training Scheme

Another key training programme is our Technician and Craft Apprentice Training Scheme which aims to provide systematic training of good standard to satisfy the present and future needs of EMSD as well as the community in a wide variety of occupations. The long-standing scheme has been running for over 50 years, successfully trained more than 4,500 apprentices for the profession. In 2010/11, we recruited 44 craft apprentices and 40 technician apprentices. Besides on-the-job training, we have sponsored the apprentices to attend craft certificate courses and higher diploma courses in the Institute of Vocational Education.

Training Targets

In 2010/11, we achieved 4.86 training days per staff member per year on average, exceeding the 4.5 days target set for the year. We continue to encourage and provide training relevant to enhancing our services and developing new services, and to facilitate employees' personal growth.

A Healthy and Safe Working Environment

Occupational Health and Safety

At EMSD, we attach great importance to Occupational Safety and Health (OSH). Our Safety and Health Policy and infrastructure help ensure that a high standard of OSH in the workplace is 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 on a regular basis to review our health and safety performance in all areas with a view to identifying areas for improvement. We have continued to conduct training and refresher courses, and disseminate information through various channels. In order to strive for further safety improvement, a new Steering Committee on Occupational Safety and Health, which comprises senior management staff from EMSTF, was set up in June 2010.

Over the past 10 years, our in-house accident rate has decreased steadily, reaching the lowest of 4.38 per 1,000 employees in 2009/10. The accident rate increased slightly in 2010/11 to 5.42, being the second lowest in the 10-year period. We are not complacent of the development and to enhance safety awareness and nurture safety culture, a variety of OSH activities were held, including safety visits and sharing sessions. A new monthly safety theme initiative was launched in September 2010 to deliver detailed thematic safety information to staff. Safety posters on "Assess Risk for Safe Working" and "Instant Reporting of Critical Incident" were distributed to various workplaces to raise staff awareness of pre-work risk assessment and incident reporting. OSH competitions were held on themes such as Zero Accident, Safety Improvement, "We See, We Clear" and "Near-Miss Incident" Reporting, Best Safety Enhancement Project and Good Office Housekeeping. Awards were given to teams and divisions in recognition of their outstanding safety performance.



In-house Accident Rate over Past 10 Years



Inauguration ceremony of the Steering Committee on OSH

The Steering Committee on OSH was established in June 2010. The main objectives of the Steering Committee are to formulate departmental OSH policies, review in-house and contractor accidents and oversee OSH activities conducted in the department with a view to enabling continuous improvement in safety performance. The Steering Committee met three times in 2010-11.

Sick Leave

In 2010/11, a total of 18,961 working days were lost due to sick leave. This is equivalent to around 3.55 days per employee.

Staff Relations

Staff Satisfaction Survey

Independent research specialists are appointed to conduct staff satisfaction surveys on a regular basis. In the latest 2009/10 survey, every employee at senior engineer rank or below was provided with an opportunity to express his/her views through a survey questionnaire. The average overall staff satisfaction rating from the survey is 6.3 (on a scale of 10). Overall satisfaction levels in the past years have shown a steady trend. The next survey will be conducted in November 2011.

Staff Consultation Channels

There are four departmental consultative committees and five divisional consultative committees to facilitate communication between particular groups of staff and management within EMSD. Staff members are also free to join the 11 staff unions of EMSD as well as the general government staff unions. Regular gatherings / meetings are held with the EMSD staff unions to discuss issues of staff concern.

Contractors and Suppliers

Contractor and Supplier Management

Our contractors, consultants and suppliers are our important partners in the provision of reliable and quality services to our clients and the community. We invite these working partners to tender for public

works contracts from time to time. In selecting contractors, we adhere to the basic principles of openness and fairness, and adopt competitive tendering wherever applicable in compliance with government guidelines. We have established and maintained close communication with our contractors, consultants and suppliers to ensure that critical information, such as customer concerns and work safety, is clearly conveyed to them and 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. Post-project reviews are carried out upon project completion to further assess contractor performance.

To enhance our staff skill and integrity in managing the work of contractors and suppliers, regular workshops on contract and contractor management, contract safety and integrity management are arranged for staff responsible for contract management.

Customers

Achieving customer satisfaction is a priority in our day-to-day service, particularly for our Trading Services. In this regard, we commission an independent research consultant to conduct Customer Satisfaction Survey once every two years to gauge customer satisfaction level. The most recent survey was completed in April 2010, which reported a score of 6.01 on a scale of 8. We have acted upon the findings, aiming to further enhance customer satisfaction. The next survey will be conducted in early 2012.

As to Regulatory Services, our Customer Liaison Group meets regularly with representatives from

the general public to exchange views and obtain face-to-face feedback on our regulatory and safety promotion activities, and how they can be improved. Public opinion surveys to gauge public awareness of E&M safety and energy efficiency, as well as trade surveys to measure the trade's views of RS services, are also conducted regularly to identify improvement areas for Regulatory Services. Pro-active communication with the trades via seminars and discussions are also frequent. Where appropriate, Regulatory Services also work jointly with other government departments, the trades and utility companies to promptly restore utilities supply to citizens affected by major incidents.

Seminars and Forums for Government Departments and EMSTF Clients

During the year, EMSD continued to promote the benefits and latest practices in energy efficiency and conservation to other government departments, public organisations and EMSTF clients. The topics covered general best practices as well as energy saving tips for specific areas. The following are highlights in 2010/2011.



Energy Conservation and Efficiency Seminar for Public Organisations

Our Energy Efficiency Office held the seminar in June 2010 for other government departments and public organizations such as the Hong Kong Housing Authority, Hong Kong Housing Society, The Link and Urban Renewal Authority on energy saving technologies, with about 150 participants. Panelists consisted of academics and experts who shared their knowledge and research into topics such as LED lighting, urban climate and air-conditioning technologies and their energy efficiency applications.



Mr K K Li, Assistant Director/Energy Efficiency, giving a speech in the Energy Conservation and Efficiency Seminar

Buildings Energy Efficiency Talk for Power Company

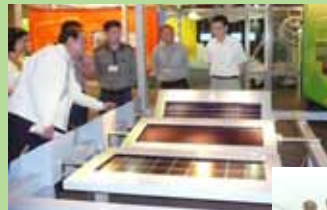
Speakers from our Energy Efficiency Office attended a talk in September 2010 organised by the China Light and Power (CLP) on buildings energy efficiency, and briefed the audience on various aspects of the Buildings Energy Efficiency Bill including the proposed Building Energy Codes, various statutory requirements and technical standards. The talk was well attended by CLP technical staff, engineers and managers.



Staff of Energy Efficiency Office giving a talk for the CLP

Guangzhou Delegation on Energy Efficiency

A delegation of the Guangzhou Wall Materials Reform and Buildings Energy Efficiency Office visited EMSD Headquarters in May 2010 for sharing of experience on energy efficiency matters with our Director and senior management. Delegates were briefed on the implementation of Hong Kong's Buildings Energy Efficiency Ordinance, the Mandatory Energy Efficiency Labelling Scheme and the Energy End-use Database, and shown the various energy efficiency features as well as the Education Path at our headquarters building.



Guangzhou Wall Materials Reform delegation visiting the education path of EMSD Headquarters



Community

Our staff have long been active in serving the community, both in their work duties to reach out to the public to disseminate E&M safety and energy efficiency messages, and as voluntary service beyond their work duties in order to give back to the community. Our Staff Voluntary Service Team, for example, has served the community in numerous initiatives for more than ten years. Many of our professional engineers also play active roles in local and international professional engineering institutes to contribute to the growth of the profession and help maintain its high standards.

Public Education Activities

We work closely with other government departments and the community to promote E&M safety and energy efficiency to the public, an important aspect of the work of our Regulatory Services. Public education is conducted through a variety of channels, including mass media and the Internet, publications, promotional and advertising campaigns, posters and mail-outs, carnivals, roadshows, drama performances, game contests, quizzes, and talks and seminars tailored to the needs of specific segments of the public. The following are highlights in 2010/11.

The Public Learns More About Energy Efficiency

Over 160 members of the public attended a seminar on energy conservation and efficiency organised by the Energy Efficiency Office at the Science Museum in August 2010. Topics touched on all aspects of daily life including energy saving tips at home and in the office, information about the Mandatory Energy Efficiency Labelling Scheme, as well as energy efficient lighting systems and home appliance safety tips. Guest speakers also shared their insights into issues such as energy efficient driving habits and mobile communications.



EMSD staff giving talks to the public on energy saving and safety tips at home and in the office

Technical Forum on Fresh Water Cooling Towers Scheme

This annual forum held by the Energy Efficiency Office in October 2010 attracted over 350 attendants. It provided a platform for the trade and stakeholders to share their practical experience in the design, installation and good practices on maintenance of fresh water cooling towers, and promote the wider use of more energy efficient water-cooled air conditioning systems.



More than 350 attendants participating the technical forum on fresh water cooling tower scheme



Mr K K Li, Assistant Director/Energy Efficiency, in speaking in the technical forum

Solar Equipment Installation Seminar for Trade

We held a seminar at EMSD Headquarters in May 2010 to brief the trade on solar energy equipment installation requirements under the new Minor Works Control System. Representatives from the Buildings Department explained amendments to the Buildings Ordinance as a result of the introduction of the Minor Works Control System, and the streamlining of procedures for installing photovoltaic panels and solar water heating systems in private buildings. The simpler procedures could encourage more households to use renewable energy. Over 180 members of the trade attended.



EMSD and BD representatives briefed the trade on solar energy equipment installation requirements



Over 180 members of the trade attended The solar equipment installation seminar

Seminar on Energy Consumption Benchmarking Tools

More than 60 representatives from property management companies, universities and tertiary institutions, consultants and NGOs attended this seminar held in January 2010 where speakers from the Energy Efficiency Office and the Hong Kong Productivity Centre explained details of the proposed benchmarking tools. The new version of the tools will enable users, including households, to benchmark their energy consumption in order to improve energy efficiency. The seminar aimed to enhance stakeholders' understanding of the tools and solicit their views for refinement before releasing to the public in the latter half of 2010.



EMSD and HKPC introducing the use of the benchmarking tools



More than 60 persons attended the seminar on energy consumption benchmarking tools

E&M Young Ambassador Programme Launched

EMSD launched the programme in the summer of 2010, with the aim to empower youngsters to become ambassadors of E&M safety and energy efficiency in everyday life. This is our first web-based initiative tailored for children and teenagers, with online recruitment all year round. Once registered, ambassadors may take part in an online fun quiz as well as talks on E&M safety and energy efficiency, receive e-information, and be invited to EMSD activities such as open days and carnivals. Ambassadors are also expected to learn about E&M safety, energy efficiency and renewable energy, and be a role model to family and friends in these areas.



The web-based E&M Young Ambassador Programme

E&M Safety Campaign Celebrates its First Decade

The E&M Safety Campaign celebrated its tenth year in 2010. The event has become an important initiative for EMSD and leading organisations and trade associations in Hong Kong to promote E&M safety and energy efficiency to the general public.

The E&M Safety Campaign 2010 featured a rich array of competitions and fun activities for the public. The Campaign also, for the first time, staged its grand finale, the E&M Safety Carnival, in the New Territories, at Sha Tsui Road Playground in Tsuen Wan. The Carnival, which was held on 13 and 14 November and featured 20 game booths, exhibitions, and Cantopop and drama performances as well as a children's corner, attracted a record high of more than 18,000 visitors. The 2010 Campaign was supported by 15 leading organizations and trade associations from the utilities, gas, public transport, public housing and recreation sectors.



Supporting organisations taking the stage at the safety campaign

EMSD Open Day

The Electrical and Mechanical Services Department (EMSD) opened its headquarters in Kowloon Bay to the public on August 22, 2010 (Sunday). The Open Day attracted more than 900 citizens to join the fun of the interactive energy saving games and to learn more about electrical and mechanical safety and energy efficiency via a tour of our Education Path along with the Exhibition Gallery and rooftop pavilion.



Promotion banner for the EMSD Open Day

Participation in Community Activities

Working with the Trade to Serve the Community

We work pro-actively with the trade to better serve the community. A good example is our response to the fire at the Fa Yuen Street market stalls in December 2010. Working with other government departments and China Light and Power, our Electricity Legislation Division helped expedite the resumption of power supply to affected stalls.

We also took the initiative to work together with trade associations, trade unions and the Vocational Training Council, which all generously provided volunteers to help reinstate the electrical installations so that stalls could reopen in time for the Christmas shopping season. Stall owners were appreciative of our extra efforts.



EMSD staff photographed in front of Fa Yuen Street market stalls after resuming the electricity supply



EMSD staff receiving acknowledgement for quick resumption of the power supply at the Fa Yuen Street market stalls

EMSD Staff Club Chinese Orchestra Performs for Community

Amateur musicians from our Staff Club Chinese Orchestra took part in two community performances in December 2010. One was a carnival in Kwun Tong for members of the public. Sponsored by the Kwun Tong District Council, the event was well attended by the community as well as guests from LegCo, the Kwun Tong District Council and other government departments. The other event, also on the same day, was a singing and dancing competition for the mentally challenged, organised by Lok Chi Association. The Orchestra was delighted to be supporting these community-building activities.



Staff Club Chinese Orchestra performing on stage

Charity Events

Fund raising E&M Safety Walk

EMSD senior management and over 50 staff members from our Electricity Legislation Division as well as other divisions took part in the E&M Safety Walk in December 2010, held in Fan Ling. Organised by the Federation of Hong Kong E&M Industries Trade Unions and the Hong Kong Federation of E&M Contractors, the event was a fund-raiser for the Construction Charity Fund which provides assistance to victims of construction incidents and their families.



Group photo of staff after completing the E&M safety walk

Supporting Community Chest Walks for Millions

Apart from participating in the Hong Kong Community Chest Walks for Millions, our trading fund colleagues had been providing free technical support to the event over the past ten years. They were engaged in the setting up of electrical installations and audio-visual facilities in the Hong Kong Stadium. We will continue to provide our support for the future Community Chest Walks.



EMSD staff taking a group photo before joining the Hong Kong Walk

EMSD Staff Club Volunteer Team

With the arrangement of Yan Oi Tong, the Staff Club Volunteer Team travels to the home of elderly people and the needed on monthly basis to provide repair services of household appliances.



Caption: EMSD Staff Club Volunteer Team members preparing for their monthly voluntary service for the needy

Economic Performance



Contributing to the
local economy



EMSD plays an active role in the economic development of Hong Kong. Our Trading Services arm provides services to our customers comprising government departments and public bodies, and our Regulatory Services provides services to the general public. In turn, these activities create jobs for our staff and business opportunities for suppliers and contractors from whom we purchase goods and services. All of these activities contribute to the local economy.

In addition, our Regulatory Services helps maintain a safe and energy efficient environment which is vital to attracting business activities and investment into Hong Kong. As the regulatory framework for energy efficient products and buildings is likely to grow and mature in the coming years, market demand for low carbon and more sustainable products and services is set to increase, thus creating more

opportunities for business and innovation for the trade and community.

Overview

Our economic performance is reviewed on a yearly basis through the annual reporting of the business results of the Electrical and Mechanical Services Trading Fund (EMSTF) for our Trading Services, and through the Administrative Budget for our Regulatory Services. More information can be obtained from the EMSTF Annual Report 2010/11 (<http://www.emsd.gov.hk>) and the HKSAR Government's General Revenue Account (Head 42) (www.budget.gov.hk) for a complete review of our financial performance.

A summary of the actual departmental expenditure is set out in the table below:

Summary of Key Economic Indicators – Regulatory Services

	2008/09 (HK\$ 000)	2009/10 (HK\$ 000)	2010/11 (HK\$ 000)
Suppliers & Contractors Costs	58,787	74,060	72,384
Expenditure on Energy Efficiency Projects / Renewable Energy Projects & IAQ Projects for Government Departments	70,818	200,350	131,102
Total Payroll and Benefits / Staff Costs	195,229	194,809	199,255

Summary of Key Economic Indicators – Trading Services

	2008/09 (HK\$ 000)	2009/10 (HK\$ 000)	2010/11 (HK\$ 000)
Turnover	3,760,726	4,130,110	4,217,056
Suppliers & Contractors Costs	1,641,131	1,804,857	1,781,660
Total Payroll and Benefits / Staff Costs	1,770,126	1,784,968	1,806,854
Taxation (notional)	52,950	85,070	98,770

New Service Development

During the year, we continued to support client departments in their daily operations and E&M projects, in addition to assisting the Government in its policy initiatives to develop Hong Kong's infrastructure and an energy efficient and low carbon economy. The EMSTF team has assumed an increasing role in Hong Kong's major infrastructure developments. There was also a growth in demand for Information and Communications Technology (ICT) services, and an expansion of our services in the areas of energy efficiency and green projects.

During the year, the EMSTF provided professional and technical support to E&M systems at the new Central Government Complex, the new Legislative Council Complex and the new Civil Aviation Department Headquarters building to ensure their smooth commissioning. We provided consultancy services to the Marine Department on the upgrading of the Vessel Traffic Surveillance System, and engineering support to assist five Hospital Authority hospitals in gaining accreditation with the Australian Council on Healthcare Standards. Furthermore, the Correctional Services Department, the Fire Services Department and the Hong Kong Police Force entrusted the Trading Fund to upgrade their trunked radio systems, thus allowing them to have stronger communication security and enjoy greater working efficiency. Other energy efficiency and green projects included assisting the Food and Environmental Hygiene Department in sourcing the environmentally-friendly "Euro V" refuse collection vehicles and installing solar hot water systems at United Christian Hospital, Tuen Mun Hospital and Pamela Youde Nethersole Eastern Hospital.

We have also secured further agreements with various government departments for the provision of E&M maintenance and engineering support and monitoring services. The major Service Level Agreements (SLAs) secured during the year included a six-year SLA with the Tourism Commission for E&M service at the Kai Tak Cruise Terminal and a five-year SLA with the Immigration Department on electronics maintenance; SLAs with the Department of Health and government departments stationed in Tung Chung, as well as a new SLA with the Highways Department to carry out technical review of E&M systems of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link.

Employment

As of 31 March 2011, EMSD employed 5,338 staff. This represents a 0.8% increase on the previous year. Staff cost including payroll, Mandatory Provident Fund contribution, allowance, and fringe benefits was \$2.0 billion.

Procurement of Goods and Services

We regularly work with our consultants, suppliers and contractors who support us in providing quality services efficiently and effectively to the public and our client departments. For the purchase of materials and services, we strictly adhere to the procurement procedures and tender processes for various types of contracts according to the guidelines set by the Development Bureau (Works), the Environment Bureau and the Government Logistics Department. The expenses on contractors and suppliers in 2010/11 were approximately \$1.85 billion.

Awards and Recognition

World class
quality proven

公德地盤嘉許計劃 Considerate Contra
2010 Site Award Scheme



Awards and Recognition

In 2010/11, EMSD staff received several major awards both from the Government and also external associations in recognition of their outstanding performance at work or community service. We also participate in events, competitions and certification exercises where appropriate to keep ourselves abreast of the best practices and standards of excellence in different areas.

Outstanding Vehicle Apprentice Award

Further to awards won in 2009, another three vehicle apprentices from EMSD's Apprentice Training Scheme also won awards in 2010 in the Outstanding Vehicle Apprentice Award organised by the Vocational Training Council's Automobile Training Board held in November 2010. Mr Lam Chung-yiu and Mr Wong Wai-yip each won a merit award, and Mr Cheung Ka-hang was among the six finalists. The awardees have graduated from the Apprentice Training Scheme in August 2010 and are now working for EMSD as technicians.



EMSD vehicle apprentices receiving the Outstanding Vehicle Apprentice Award

Apprentices Won VTC Awards

EMSD technical apprentices were recipients of the Outstanding Apprentice and Trainee Awards organized annually by the Vocational Training Council last year (2009). The proud achievement was repeated by two more apprentices of EMSD, Mr Cheung Hing-shing and Mr Chung Kin-shing, who received the same accolade in 2010. Another EMSD technical apprentice, Mr Kan Man-ho won a merit award.



EMSD Apprentices won Outstanding Apprentice and Trainee Awards

Ombudsman's Award for Handling Vehicle Complaint

Mr Lai Kam-fai, an EMSD engineer seconded to the Transport Department, won a 2010 Ombudsman Award for Officers of Public Organisations for his excellent work in handling a public complaint with regard to a vehicle modification case. Mr Lai was noted for his outstanding technical expertise, listening skills and communication skills in helping the mediation and final resolution of the case.



Mr Lai Kam-fai (right) receiving the Award from Mr LAI Nin, the Ombudsman



Mr Lai Kam-fai was congratulated by Deputy Director, Mr Alfred Sit (second from left) on stage

Young Engineers Admitted to HKIE President's Protégé Scheme

Following the accomplishment by Ms Luk Pui-kwan in the Hong Kong Institution of Engineers (HKIE) President's Protégé Scheme in 2009, another assistant engineer, Mr Leung Chi-to, was admitted to the 2010 scheme. Both were thrilled by the exposure and learning opportunities through activities such as taking part in HKIE annual functions, taking part in local and international events and conferences, as well as meeting senior government officials.



Ms Luk Pui-kwan was a mentee in the 2009 Scheme

Mr Leung Chi-to was a mentee in the 2010 Protégé Scheme

EMSTF Won Three Considerate Contractors Site Awards

Three contracts managed by EMSTF won the Considerate Contractors Site Awards in 2010 for outstanding site supervision work. A contractor of the Municipal Services Division won the Gold Award for a maintenance, alteration and addition works contract, while two contractors of the Municipal Services Division and Transport, Security and Central Services Division respectively also won merit awards.

The annual award is organised by the Development Bureau to promote occupational health and safety for contractors and site supervising organisations.



The Director (fourth from right) and Deputy Director (fifth from right) photographed with senior management of the contractor after receiving the Gold Award in the Considerate Contractors Site Awards Scheme 2010

GRI Indicator Index

Indicators	GRI Reference	Page Reference	
Strategy and Analysis			
	1.1, 1.2	7 - 10	
Organisational Profile			
	2.1 - 2.10	3 - 5, 24 - 27, 35 - 39	
Report Parameters			
Report Profile	3.1 - 3.4	1, 42	
Report Scope and Boundary	3.5 - 3.11	1, 2, 5, 40	
GRI Content Index	3.12	40	
Assurance	3.13	42	
Governance, Commitments and Engagement			
Governance	4.1 - 2, 4.4	3, 5, 6, 20 - 26	
Stakeholder Engagement	4.14 - 4.16	6, 26 - 29	
Management Approach and Performance Indicators			
Economic	Economic Performance	EC1, EC3	11 - 13, 35 - 36
Environmental	Materials	EN1, EN2	20, 21, 41
	Energy	EN3, EN5, EN6	13, 15 - 18, 20, 41
	Water	EN8	20, 41
	Emissions, Effluent and Waste	EN16, EN18	21, 41
	Products and Services	EN26	15 - 18, 21 - 22
	Transport	EN29	21
Social	Labour Practices and Decent Work		
	- Employment	LA1	24, 36
	- Occupational Health & Safety	LA6, LA7	25 - 26
	- Training and Education	LA10, LA11	24 - 25, 41
	- Diversity & Equal Opportunity	LA13	24
	Human Rights		
	- Freedom of Association & collective Bargaining	HR5	26 - 27
	Society		
	- Community	SO1	15 - 22, 28 - 33
	Product Responsibility		
	- Product & Service Labelling	PR5	26 - 27

For more information about the GRI indicators, please visit the website <http://www.globalreporting.org/Home>

Summary of Statistics

Resource	2008/09	2009/10	2010/11
Electricity (kWh)#	12,311,211	11,962,512	12,682,496
Towngas (MJ)	277,248	341,904	215,856
Water (m ³)	59,878	37,027	37,452*
Diesel (l)	118,861	136,074	118,496
Gasoline (l)	386,222	513,083	504,856
Paper - A3, A4 (ream)	28,459	27,379	27,778
Paint & Solvent (l)	42,755	33,506	34,788
Lubrication Oil (l)	124,520	123,602	102,199
Grease (kg)	2,249	1,958	1,002
Refrigerant (kg) (e.g. R22 & R134a)	15,803	18,915	18,182
Industrial Gas (m ³) (e.g. Oxygen, Argon & Acetylene)	3,611	2,753	1,767
Battery Electrolyte (l)	1,620	1,947	660
Tubeless Tyre (no.)	8,108	9,103	8,243
Outer Cover Tyre (no.)	3,278	3,272	2,857
Inner Tube of Tyre (no.)	2,102	1,944	1,732

Emissions, Effluents and Waste®

Waste Paper (kg)	14,124	23,535	22,296
Toner Cartridges (no.)	2,957	3,309	3,053
Batteries (kg)	2,896	3,626	3,458
Metal Scraps (kg)	30,375	37,270	47,241
Waste Oil (l)	116,616	117,896	124,148
Vehicle Tyre (no.)	7,989	8,172	9,101
Mercury Lamp including fluorescent tube (no.)	113,007	145,550	136,454

Staff

Number of Accidents per 1,000 Staff (reportable)	5.87	4.38	5.42
Staff Satisfaction (out of a score of 10)**	Not applicable	6.30	Not applicable
Training (average training target: 4.5 days/staff)	5.25	5.00	4.86

Electricity Consumption of canteen, rented offices not included

* Figures adjusted in view of leakage of the toilet water system. The faulty parts had been subsequently rectified.

@ The concerned wastes are collected by the licensed contractor for material recycling or disposal.

** Staff Satisfaction Survey is conducted once every 2 years.

VERIFICATION STATEMENT

Scope and Objective

Hong Kong Quality Assurance Agency (HKQAA) was commissioned by Electrical and Mechanical Services Department (hereinafter referred to as “EMSD”) to undertake an independent verification of the Social and Environmental Report 2010/11 (hereinafter called “the Report”). The Report stated EMSD’s sustainability performance and efforts made for the period from 1st April 2010 to 31st March 2011. The verification team did not partake in the compilation of the data and information of the Report.

The aim of this verification was to provide assurance on the completeness and accuracy of the information stated in the Report.

Methodology

The process used in this verification was based on current best practices. The Report was reviewed based on the following criteria:

- The principles of completeness, accuracy, neutrality, comparability and responsiveness, as set out in the Institute of Social and Ethical Accountability standard AA1000, and
- The Global Reporting Initiative (GRI) G3 Guidelines.

The verification procedure included reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the Report and verifying the selected representative sample of data and information consolidated in the Report. Raw data and supporting evidence of the selected samples were thoroughly examined.

Conclusion

Based on the outcome of the verification process, the verification team determined that the information presented in the Report provided a material and complete representation of the performance of EMSD in the context of sustainable development. The verification team confirmed that the Report was prepared based on factual statements and that the data contained within the Report are accurate. It is a fair and honest representation of initiatives, targets, progress and performance on EMSD’s social and environmental achievements.

Opportunities for improvement on the reporting structure and content are separately submitted to EMSD for their consideration on the compilation of future sustainable development reports. It does not affect our opinion on the Report.

Signed on behalf of Hong Kong Quality Assurance Agency



Jorine Tam
Assistant Director
May 2012

Feedback Form

Thank you for reading our Social and Environmental Report 2010/11. To help us improve future editions of our Social and Environmental Report, we would be grateful to have your comments.

	Inadequate 1	2	Acceptable 3	4	Very Informative 5
1. Which part of the report do you find most informative?					
a. About this Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. About EMSD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Director's Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Challenges and Opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Highlights and Way Forward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Environmental Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Social Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Economic Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Awards and Recognition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. GRI Indicator Index	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Summary of Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the report enable you to understand more about EMSD's performance on environmental issues?	Yes <input type="checkbox"/>		No <input type="checkbox"/>		No Comment <input type="checkbox"/>
3. Does the report enable you to understand more about EMSD's performance on social issues?	Yes <input type="checkbox"/>		No <input type="checkbox"/>		No Comment <input type="checkbox"/>
4. Overall, how would you rate our report?	Poor <input type="checkbox"/>		Good <input type="checkbox"/>		Excellent <input type="checkbox"/>
5. Other comments and suggestions, please specify	<hr/> <hr/> <hr/>				

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

Please return feedback form to:
 Safety Sub-division, EMSD, 3 Kai Shing Street, Kowloon, Hong Kong
 Fax: (852) 2576 1207 Email: safety@emsd.gov.hk



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