

機電工程署 環保報告

Environmental Report 1999

Electrical and Mechanical Services Department



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Foreword

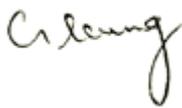
At EMSD our vision is not simply to provide the most comprehensive electrical and mechanical services in Hong Kong, but also to constantly meet and exceed our clients' expectations. This drive for quality is an intrinsic part of our service philosophy and today, we have established a reputation for service quality that is amongst the best in Hong Kong.

As a responsible corporate citizen however, we believe that providing quality services is just one element in the total quality equation. Quality services contribute to the quality of life we all enjoy in Hong Kong and maintaining that quality of life is a responsibility that we take very seriously indeed. A major factor in ensuring this quality of life is the need to conserve and sustain a green environment.

EMSD participated in one of the pioneering environmental audits carried out by the Government in 1994. Since then, we have implemented our own programme of environmental audits, covering over 100 locations, and a Green Manager Scheme.

We aim to attain ISO 14001 certification within 2000 based on an Environmental Management System, which apart from protecting, conserving and improving the environment also aims to minimise any negative impact to the natural habitat as we carry out our daily business.

This report provides an overview of our activities and programmes in caring for the environment, in the effort to sustain the quality of life in Hong Kong. We hope that an understanding of these activities will generate an increased appreciation of the work that we do and the efforts made in protecting our environment. At the same time we aim to promote a greater sense of responsibility not only among our staff as they carry out their daily duties, but also among our customers as well as the people of Hong Kong. In the new millennium, we all need to work together to ensure the sustainable development of our society.



Director of Electrical and Mechanical Services CT Leung

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Executive Summary

An effective environmental programme must form an integral part of the management and administration of every responsible corporate citizen today to preserve and sustain a green environment both in Hong Kong and around the world. This environmental report details our activities in the Electrical and Mechanical Services Department as we work to protect, conserve and improve the environment both in our day-to-day operations and our public safety and regulatory activities.



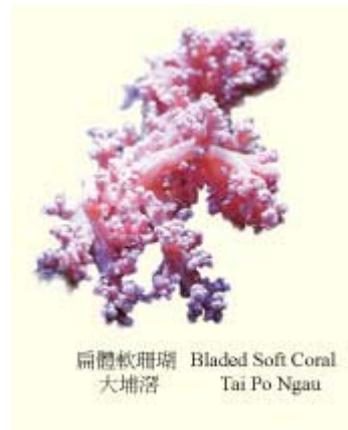
畫眉
綠箭
Hwamei
Ho Chung



茶花
柏架山
Camellia
Mount Parker

First and foremost, a clear and well mapped out Environmental Policy that is committed to environmental conservation and protection ensures our direction and focus. This policy builds on our three major roles - as a good corporate citizen, a responsible service provider and a regulatory authority that acts with both foresight and vision - in the community of Hong Kong.

Supporting this policy, we have a number of initiatives in place to sustain a green and quality environment for Hong Kong. Three key programmes help to protect the environment, working to minimise or negate the effects of harmful pollutants in our surroundings - in the air, on land and in our waters. These include the reduction of vehicle emissions in the Government's 7,500 strong vehicle fleet, our comprehensive CFC replacement programme as well as the management and administration of a waste disposal programme for our daily operations.



扁體軟珊瑚
大埔灣
Bladed Soft Coral
Tai Po Ngau



血桐
龍翔道
Elephant's Ear
Lung Cheung Road

In the field of conservation, our Energy Efficiency Office with its ongoing schedule of Energy Audits, the Green Manager Scheme and widespread Energy Efficiency programmes, has done a great deal to spread the conservation message throughout the community, while also engaging in a number of activities that both maximise energy efficiency and lower its usage. During the process, the more efficient systems implemented have saved our customers millions of dollars in reduced energy costs.

Leading our initiatives to improve the environment is our Indoor Air Quality programme which has helped to ensure a cleaner and healthier environment for many of Hong Kong's government buildings. Also working to improve the overall air quality in Hong Kong, we are closely involved in providing consultancy and full technical support to the Government's LPG Vehicle programme.

In order to strengthen the coordination of our own programmes and practices, we are working on the implementation of an Environmental Management System. This system will provide a systematic approach to every stage in the care of the environment - from the formulation of policy, to planning, implementation, control,

revision and review. With such a system in place, we will be seeking ISO 14001 certification, providing international recognition for our efforts in this direction.

Our final initiative touches on the importance of health and safety, together with the need for an integrated quality, environmental, health and safety programme in ensuring the success of a sustainable future.

"EMSD is committed to building a better environment through continuous contributions to environmental conservation and protection."

EMSD Environmental Policy

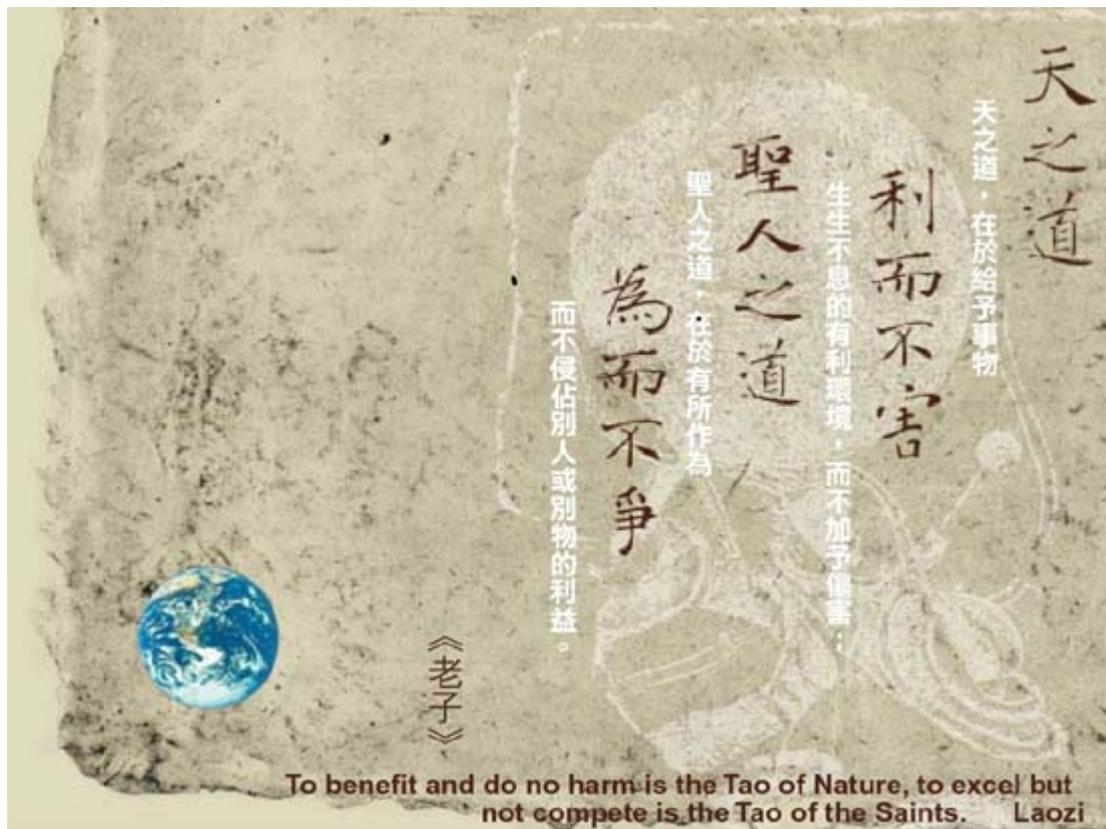
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Our Vision for the Future

In our quest for quality and commitment to total customer satisfaction, our environmental programme plays a key role in our day-to-day activities. For such a diverse and comprehensive programme to be effective however, it is essential to have a clear vision and focused policies that will provide a visible road map for success. In arriving at our environmental policy, our triple-role as a good corporate citizen, a responsible service provider and a regulatory authority with both foresight and vision, has played a key factor.

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As a good corporate citizen - we are committed to ensuring that our staff are fully trained in environmental awareness and practices; our facilities do not cause any environmental nuisance to our neighbours, and our operations, apart from satisfying all relevant environmental legislation and standards, minimise any negative impact to the environment.

As a responsible service provider - we ensure that our clients are fully informed of the different technology options available together with their financial viability and environmental friendliness. We also work in partnership with clients to develop environmentally sound work practices.

As a regulatory authority with vision - we seek to lead the way with legislation and policies that will not only safeguard the public from unacceptable safety and environmental risks in electrical, mechanical and gas installations but also to promote the efficient use of energy and to improve the existing environment where and when possible.

By fulfilling this triple-role we aim to contribute to the sustainable development of our society. At the same time, we are committed to providing quality services for our clients, and in turn the community of Hong Kong through constant review of the potential impact of our operations on the environment.



Triple Role of EMSD

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Protecting the Environment

In our increasingly urbanised, mechanised and throwaway society, the pollution of the environment is an ever-growing problem in industrialised nations around the world. More and more waste has to be disposed of, more emissions are being released into the atmosphere, toxic substances are poisoning the environment, harmful chemicals released into the atmosphere are depleting the ozone layer while more and more trees are being cut down contributing to the green-house and global warming effect. It is therefore imperative that we all work together to ensure the future of our planet.

At EMSD, we have a number of programmes that work towards protecting the environment.

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Vehicles Emissions



Vehicle exhaust has long been regarded as a major source of air pollution in Hong Kong. In view of the situation, regulations have been tightened. Under the Air Pollution Control Ordinance of 1994 and 1995, the standard for exhaust emissions has become more stringent. The use of unleaded petrol and of catalytic converters for petrol

vehicles are now compulsory and a lower sulphur content diesel fuel and international emission standards have also been put into place for new diesel vehicles since 1994.

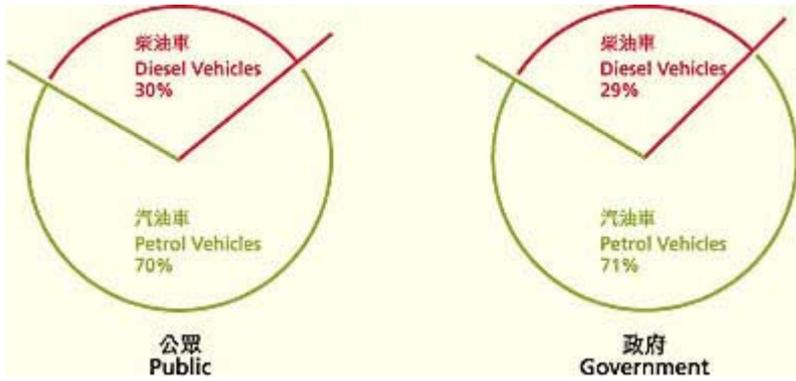
As the provider of service maintenance for the Government's 7,500 strong fleet of vehicles, we play a significant role in ensuring that emissions from the government fleet are reduced to a minimum. Activities include:

- A programme of preventive and corrective maintenance ensures that all vehicles under our care meet the established regulations for vehicle emissions. Depending on the type of vehicle, its frequency of use and mileage incurred, all vehicles have scheduled maintenance checks regularly. The more heavily used the vehicle, the more frequently it is maintained. With the use of exhaust gas analysers and smoke meters, engine performance diagnosis for petrol and diesel engines is performed whenever necessary, ensuring effective performance of the engines being tested. A road test is also carried out before the vehicle is released. This ensures the road-worthiness of the vehicles, prevents future problems from developing and minimises any negative impact of government vehicles on the environment.



- We also take a leading role in helping to limit the environmental impact brought about by the use of these vehicles by an active programme of consultancy in the purchase of new vehicles. We recommend the most appropriate vehicle in terms of optimal usage, product life cycle, energy consumption and emission levels. For example, legal compliance to emission standards and an asbestos free environment are now standard specifications in the purchase of new vehicles. Similarly, we have long advocated the reduction in the number of diesel vehicles in the government fleet.

- As technical advisor to the Environmental Protection Department (EPD), we provide both constructive advice and technical support to EPD in vehicular related matters. EPD is currently carrying out a one-year trial using diesel catalytic converters to improve the emission rate in older diesel vehicles. We are working in conjunction with EPD on this project and have recently started the retrofitting of the converters onto 25 government vehicles for the trial.



Diesel : Petrol Vehicles Proportion
Public vs Government (as maintained by EMSD)

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CFC Replacement

The depletion of the ozone layer, which absorbs large proportions of harmful ultraviolet radiation from the sun, is being viewed with concern around the world. As a result, with international commitment under the Montreal Protocol of 1987 and Hong Kong's own commitment under the Ozone Layer Protection Ordinance of 1989, ozone depleting substances would be gradually banned from further production.



Chlorofluorocarbons (CFC), Hydrochlorofluorocarbons (HCFC) and halons have been identified as major ozone depleting substances and active programmes are in place to phase out or replace existing installations that use these substances. Production of halon, which is mainly used for fire extinguishing purposes, has been banned since 1994 while the production of CFCs, mainly used in air-conditioning and refrigeration plants was banned in 1996. HCFCs, with similar applications to CFCs but used more often in smaller air-conditioners will be totally banned in 2030.



Being responsible for the operation and maintenance of air-conditioning and refrigeration plants and fire service installations for the Government and various public bodies, we manage over 2,000 air-conditioning installations apart from the air-conditioning and cooling systems in Government vehicles. We have been operating a CFC replacement programme since 1994.

Achievements to 31 December 1999 include:

- Retrofitting existing plants to enable the use of new refrigerant and replacement work for 120 installations at 30 sites, 94% of which have been completed. New refrigerants used include R134a, which cause much lower levels of global warming and a zero effect on ozone depletion.
- Replacement of 159 CFC cold room units at 52 sites has been completed.
- Replacement of 314 halon installations at 80 sites has been completed. The halon has been replaced by the more environmentally friendly FM200.

During this replacement programme, over 1,000 tonnes of ozone depleting refrigerant and halon had to be disposed of properly. As legislation prevents the release of these substances into the atmosphere, the refrigerants are either refilled into other systems using the same material, though this is becoming increasingly rare as the systems are being phased out, or sealed in containers for disposal through licensed contractors. The refrigerants are subsequently burned, thus causing the least harm to the environment.



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Waste Disposal and Recycling

EMSD has handled and disposed of a considerable amount of industrial and chemical waste in an environmentally responsible manner over the years. The Asbestos Removal Programme for example was completed in 1995.

Apart from asbestos, we also manage the disposal of a number of hazardous materials in the delivery of our services. Though these cover a range of items, major areas of disposal are spent oil, paints and solvents, CFC refrigerants, vehicle tyres, vehicle batteries and damaged plastic traffic bollards. Under our stringent management systems, all items are carefully stored, transported and recycled where possible, before being disposed of under regulatory requirements. At the same time, we take a proactive approach to prevent excessive use of these substances to ensure minimal generation of such waste.



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As mentioned earlier, CFCs are burned as the safest means of disposal, used car tyres and plastic traffic bollards are cut up for recycling and car batteries have the electrolyte solution drained out of the disused battery into specially designed drums for correct disposal. Whenever possible, these materials are reused or recycled.

EMSD Material Consumption Jan-Dec 1999		
Electricity	10,681,557	kWh
Gas	1,336,176	MJ
Water	84,216	m ³
Paper (A4)*	38,323	reams
Envelope	355,161	nos.
Tyres, Tubeless	10,811	nos.
Tyres, Outer Cover	4,122	nos.
Tyres, Inner Tube	1,160	nos.
Lubrication Oil	124,849	litres
Paint / Solvent	31,044	litres

Grease	1,362	kg
Refrigerant	592	kg
Sulphuric Acid	5,680	kg
Oxygen	1,171	m ³
Acetylene	329	m ³
Argon	298	m ³
Putty	854	kg

* Waste Paper collected at EMSD offices for recycling: 5,891kg

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Conserving the Environment

While it is important and imperative to ensure that we refrain from polluting our environment, it is just as important to ensure that we conserve existing resources, using what we have with care and prudence to ensure that we do not unnecessarily deplete the earth's natural bounty.



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Energy Efficiency

The increasing consumption of energy and the resultant depletion of fossil fuels as well as the pollution caused in generating energy, has led to widespread acceptance around the world of the need to conserve energy. At EMSD, with an Energy Efficiency Office to take a proactive role and lead the way, we are pioneers in energy efficiency management.



An Energy Management Program has been in place since 1993 setting energy efficient objectives and targets, time frames, determining methodologies, allocating both financial and human resources as well as formulating and implementing action plans. Under this programme, preliminary Energy Audits identified a number of energy management opportunities in public and government buildings, which have achieved significant savings in energy.

The Energy Efficiency Office was established in 1994 to improve energy utilisation in Hong Kong. The Office focuses its activities in two main areas. The first being the conservation of energy through the setting up of guidelines for the efficient use of energy, conducting energy audits, promoting an energy efficiency labelling scheme and the compilation of an Energy End-use Database. The Office also conducts surveys and pilot schemes to study technological options available for energy savings and cost viabilities. Secondly it provides technical supervision in the monitoring of the performance of the utility companies.

■ Energy Audits

Energy Audits form the first step in understanding where and how energy is used. They provide the basis for energy management, identifying Energy Management Opportunities where both energy and money can be saved.

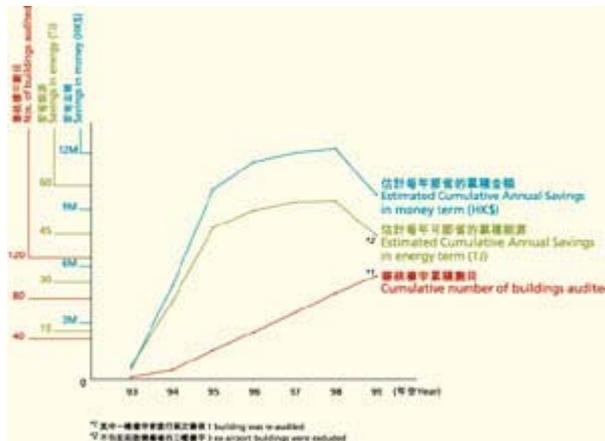
Energy audits go back to 1994 when we participated in the Government's pioneering audit which was conducted to understand how well government departments were doing with respect to environmental management. Learning from the exercise, we have since conducted our own programme of energy audits both for our own premises and for our customers, identifying Energy Management Opportunities and providing guidelines for conserving energy. Up to the end of 1999, 103 audits have been completed and a further 52 are scheduled for completion, 27 in 2000 and 25 in 2001.



Our programme actively looked at the larger users of energy first, and programmes implemented have subsequently saved our customers many millions of dollars. The programme also includes repeat audits to measure the efficiency and effectiveness of

previous audits.

In March 1996, an Energy Management Opportunities Working Group was established to develop a more centralised strategy for energy management and to make more proactive energy management proposals to our customers. Building on the benefits of an Energy End-use Database, the integrated information will provide the way forward, ensuring that energy management projects are even more effective.



Energy Conservation Results 1993 -1999

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Within EMSD we are also conducting a five-year pilot Energy Management Opportunity Programme. Phase 1 ended in 1999 while the second phase will be completed by early 2001. The first phase, which generated major savings, was based on energy efficient lighting such as the use of electronic ballast and variable speed drives for air-conditioning. The second phase is looking at more innovative technology such as dimmable electronic ballast, for example, where the system can detect natural light and adjusts lighting level accordingly. In the long term we are also looking at energy efficiency in the use of lifts and escalators. An example is the "intelligent" lift system which will be able to group people according to the floors they are going to, reducing the number of stops made thus making significant savings in energy. A tender for this "intelligent" lift at the Mongkok Government Offices was awarded at the end of 1999 and is scheduled to go on trial in mid 2000. Surveys and audits will be conducted to assess the psychological impact and energy efficiency of this intelligent lift system.

Energy Audits and Retrofit Projects in Hospitals

Promoting energy conservation, we have been working very closely with the Hospital Authority (HA) to conduct a series of in-depth energy audit surveys for their hospitals since 1998. Several energy management opportunities with payback periods of less than 5 years were identified. Based on these audits and the retrofit measures proposed, HA has subsequently confirmed funding amounting to HK\$50 million for lighting and other energy retrofit projects in twelve major hospitals. The project work will commence in 2000 and is due for completion in mid 2002. The anticipated energy saving after project completion is estimated to be around HK\$12 million per annum with a payback period of 4 years.

Energy Management Opportunities (EMOs)

Energy audits are conducted using standard guidelines that we published in 1995. A simplified version has also been issued for reference by building owners who are not trained as energy

auditors.

EMOs are identified through energy audits and fall into three categories: Cat. 1 requires practically no capital outlay to implement, Cat. 2 can be implemented at relatively low cost and Cat. 3 requires substantial capital investment and is very complicated to implement.

Implementation not only requires identification of EMOs but also suitable and innovative technology. The use of energy saving tubes and electronic ballast for fluorescent lighting as well as variable speed drives for air-conditioning are typical examples. The replacement of the T12 fluorescent tubes by the slimmer and more energy efficient T8 tubes can save energy consumption by 10% while the use of electronic ballast instead of the more conventional version can save an additional 20%-30%. Variable speed drives can reduce the flow of air when air-conditioning load is low, saving upto 50% of the energy bill when there is a reduction of air flow of 20%. The payback period therefore becomes a crucial element when determining the implementation of EMOs. The payback period for the options mentioned above typically range from 3-8 years though with both market competition and continuously advancing technology, there is a continuing decline in the cost of equipment involved and thus the payback period.

■ Guidelines for the Efficient Use of Energy

The Energy Efficiency Office also provides guidelines and Codes of Practice on the efficient use of energy both within the community and business and industry.

■ Energy Efficiency Labelling Scheme

Initiated and managed by EMSD, this scheme was first introduced in June 1995. Aiming to save energy, energy labels on common household electrical appliances inform potential customers of the product's level of energy consumption and efficiency rating. Buyers can then take these factors into account when they make their purchasing decision. Currently four schemes covering labels for 99 domestic refrigerators, 136 air-conditioners, 11 washing machines and 192 compact fluorescent lamps have been in place.



In addition to domestic products, a similar scheme is being planned for office equipment and will be implemented shortly. A preliminary feasibility study is also under way to look at the possibility of using this labelling scheme for motor vehicles.

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Improving the Environment

The final steps in our programme rests not just in protecting and conserving our environment, but in also doing what we can to make it better. Our final programmes therefore aim to improve our current environment and quality of life while also planning for a green and sustainable future.

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Indoor Air Quality (IAQ)

Indoor air quality is perhaps more important to many of us than outdoor air. Studies show that we spend 70% of our lives in an indoor environment - at work, at home, when socialising with friends or at play. While it is a controlled environment indoors, it may not necessarily be better in terms of air quality. The provision of quality indoor air requires both sound understanding of the subject and professional care.



蝶蛤 Tridacna
海下 Hoi Ha

At EMSD, we have taken a pioneering role in this area, leading the way in establishing Indoor Air Quality objectives from the mid 80s. These tests were conducted on a voluntary basis well before the introduction of legislation and established standards. In Hong Kong where there is a high incidence of respiratory diseases and where we are cocooned in air-conditioning for much of the year, clean air can make a

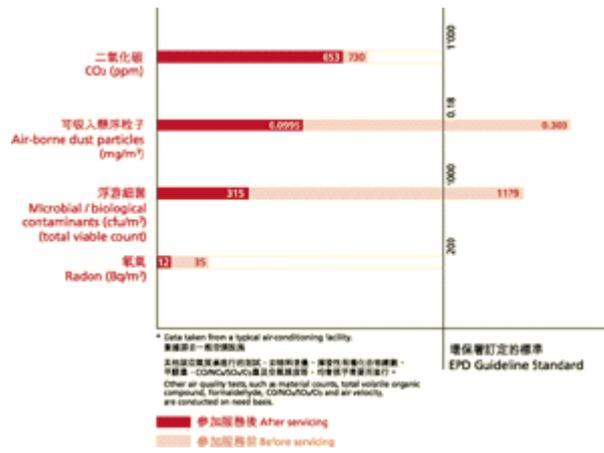
crucial difference to the state of our health and the quality of our lives. A team was set up in 1994 and consisted of 12 staff, have worked to this end, measuring indoor air-quality in government and public buildings under EMSD? care. In 1999, this team was regionalised in line with our Trading Fund activities, enabling them to provide more immediate and responsive services to our customers and to cope with the upcoming IAQ certification trial scheme in which the government is taking the lead.

Currently, we carry out measurements in about 700 government buildings and over 9,000 sampling points, at least once every two years, and annually whenever possible. Tests are carried out in four main areas, looking at levels of carbon dioxide, radon, respirable suspended particles and airborne bacteria. Results depend on a number of factors that are often as simple as the



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馬己仙蚊
Phylloscopus Warblers
Magazine Gap

number of people in the area concerned, the plants in the vicinity, the blockage of air-vents to the dustiness of the curtains and carpets. Generally results fail to comply with specified standards in just one or two areas, which often can be rectified by simple housekeeping - better cleaning to reduce dust, unblocking of air vents etc. However if the problem is shown to be within the air-conditioning system itself we make a series of recommendations to rectify the situation. These normally range from the cleaning of air ducts, the improvement of filtration systems, adjustments to the rate of air flow and fresh air intake to outright modification of the system.

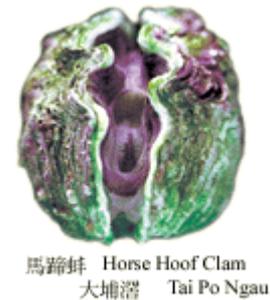


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Air Quality Management

Apart from buildings we also participate in improving the quality of air at public transport interchanges such as bus and minibus terminals.

With the formation of the IAQ Management Group under the former Planning, Environment and Lands Bureau (PELB) and now the Environment and Food Bureau (EFB), we have been actively involved in contributing to the formulation of IAQ standards and their implementation. In June 1999, an IAQ Working Group was established within EMSD. This not only enhances overall IAQ measuring techniques and technology advancement but also facilitates the sharing of our experiences on measurement and improvement work in existing air-conditioning installations.



Clean Air for Border Kiosks

A recent project was completed for both Immigration Department and Customs and Excise Department where heavy traffic at Sha Tau Kok and Man Kam To was creating high pollution and an unsatisfactory working atmosphere for the officers on duty at the border control kiosks. We conducted a pilot scheme to install pre-treated cooling fresh air units which delivered conditioned fresh air drawn from the top of the kiosk's canopy. Subsequent tests showed a significant improvement in the air quality and both departments have now decided to install the system at all border kiosks.

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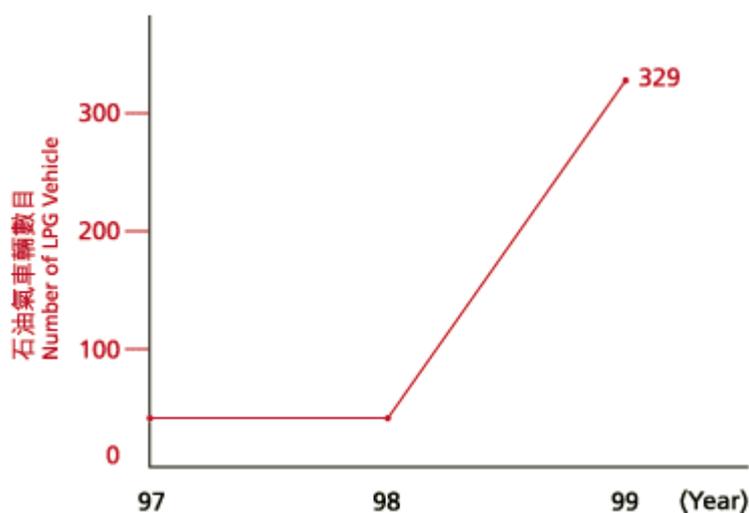
LPG Vehicles

With about half a million vehicles in Hong Kong, nearly 30% are diesel vehicles accounting for almost 70% of the total road usage in Hong Kong. Additionally diesel vehicles account for 98% of respirable suspended particulates and around 80% of the nitrogen oxide emitted by vehicles. Diesel vehicles are therefore the dominant source of air pollution in the streets of Hong Kong. To improve air quality in Hong Kong and introduce a practical and clean alternative to diesel vehicles the Government is actively promoting the use of LPG Vehicles particularly among the 18,000 taxis in Hong Kong. [Note 1](#)

To ensure the viability and safety of these vehicles a one-year road test was carried out on 30 taxis and successfully concluded in November 1998. The results were highly positive showing that the performance of LPG taxis was comparable to that of diesel taxis yet emissions were extremely low and virtually free of smoke. Passengers also welcome the taxis finding them quieter and more environmentally friendly. As a result, the Government is working towards the eventual replacement of all diesel taxis with LPG models by 2006.



EMSD's role in this initiative has been on several levels. Firstly as Hong Kong's Authority on Gas Safety, we are involved in all the safety aspects of the scheme. These include mandatory safety control and approval of the LPG vehicles, LPG filling stations, LPG vehicle workshops and competently trained LPG Mechanics. Secondly as a technical adviser and consultant to the Government, EMSD forms a part of the LPG Scheme Committee advising on technical issues.



LPG Filling Station Safety Design

Activities to date include:

- The preparation of Safety Guidelines on the construction and maintenance of

LPG taxis and LPG filling stations. These include a range of requirements and initiatives such as type approval of LPG cylinders and storage tanks as well as safety, pressure and automatic valves to prevent the build up of pressure or leakage.

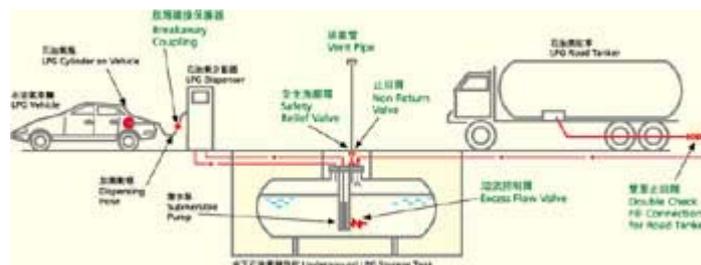
- The monitoring and supervision of LPG filling stations. We also carried out the identification of suitable sites for dedicated LPG filling stations and tenders for the design, construction and operation of 5 more dedicated LPG filling stations were issued in December 1999. These stations are expected to be operational by the end of 2000. Together with the provision of LPG facilities in 17 existing petrol stations, it is anticipated that there will be 26 LPG filling stations in operation at the end of 2000, growing to 37 at the end of 2001.

- We have issued guidelines and requirements for the setting up of LPG vehicle workshops to the vehicle service trade. So far, 29 suitable sites have been identified and we have received 11 applications for the setting up of these workshops. Permit-to-use approval has been granted to 2 workshops and construction approval for 3 other workshops has also been given.

- Currently, we have granted Type Approval to 4 LPG taxi models and applications from other LPG taxi suppliers are being processed.

- The Vocational Training Council has trained 235 LPG mechanics so far. 137 of them have been registered with EMSD under the Gas Safety Ordinance.

- We monitor the maintenance of the two LPG vehicles under trial in the Government fleet and have also issued an order, on behalf of the Environment Protection Department, for a third LPG vehicle which will act as a mobile environmental resources centre.



[ZOOM](#)

Note 1 Figure based on information extracted from the Discussion Paper of 5 November 1999, Legislative Council, Panels of Environmental Affairs and Transport, Comprehensive Control of Diesel Vehicle Emissions.

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Environmental Management

An Environmental Management System is crucial in implementing a planned and focused approach to the care of the environment. Such a System seeks to apply a universal standard of care within the different parts of an organisation in a comprehensive and coherent manner and consists of five major areas - an environmental policy, planning, implementation and control, checking and corrective action followed by management review. The five elements provide a systematic approach in addressing the widespread range of issues involved in protecting, conserving and improving the environment as well as in dealing with new issues as they emerge and evolve.



The seed of our programme was sown in 1994 when we participated in the Government's pilot environmental audit. Since then we began our own programme of environmental audits, which is carried out by an in-house audit team. To date 103 EMSD locations have been audited. At the same time, a green manager scheme was implemented to administer the environmental audit programme and to oversee green measures within the Department. The Energy Efficiency Office acts as the Green Manager and together with our Environmental Management System working group meets regularly to review progress of the audits and programmes implemented as a result of audit findings.

With a view to integrating all our environmental related initiatives, we are therefore planning to develop and implement an Environmental Management System, aiming for ISO 14001 certification in 2000.

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Health and Safety

We have included the subject of occupational health and safety in this report in view of its many parallels and similarities with environmental issues. Health and safety issues are generally focused on the staff of an industrial organisation while environmental issues focus on staff, external stakeholders and the overall community. However with our vision and triple role to provide a quality environment as a good corporate citizen, a responsible service provider and a forward looking regulatory authority, a comprehensive quality, environmental, health and safety management system is the key to future success. At EMSD, we have set up a Safety Management System. The System is kept under constant review taking new developments in health and safety legislation and standards, such as the Factories and Industrial Undertakings (Safety Management) Regulation and Occupational Health and Safety Assessment Series (OHSAS) 18001:1999 into account.



The reported accident rate was 12.62 (against an industrial average of about 20) for the Department in the 1999 calendar year, a figure that is comparable to that for 1998. Nevertheless, to enhance safety and health at work, full time Divisional Safety Officers are being provided in phases for the operations and maintenance divisions. Safety induction training is also being arranged for all front line staff with a view to enhancing their safety awareness.

At EMSD, our goals for improving the environment within 2000 include:

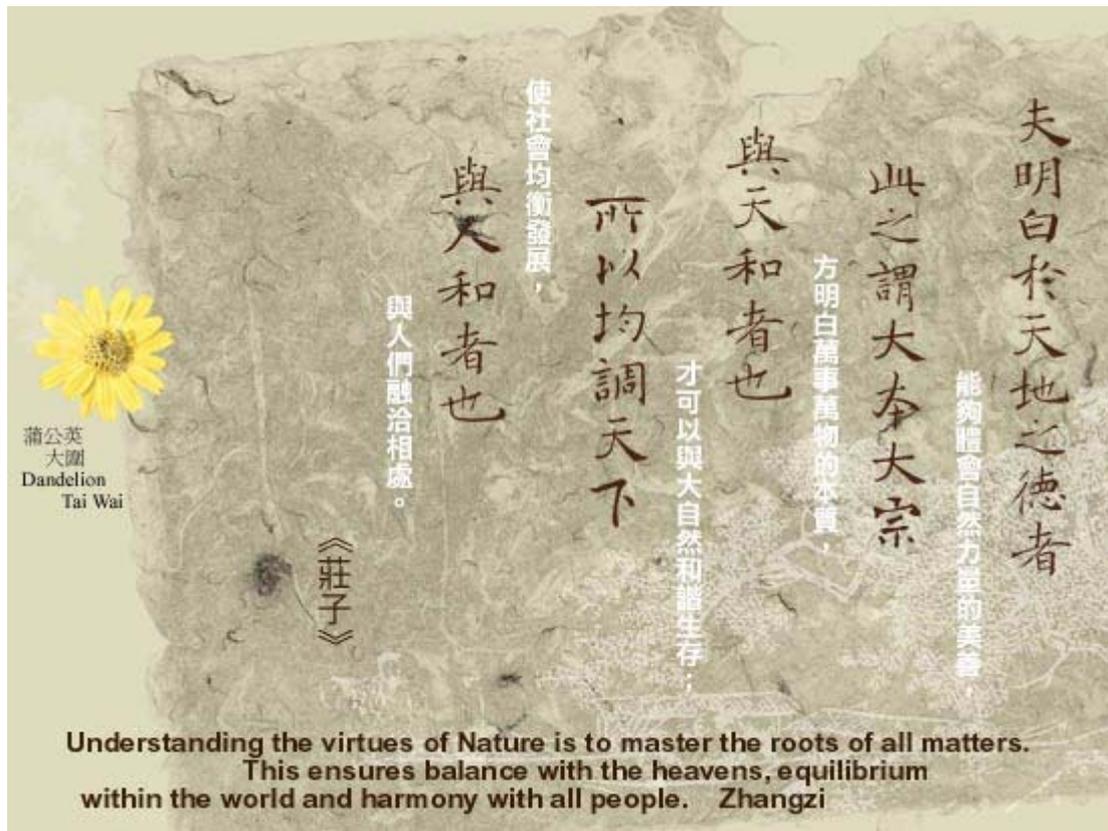
- *The development and implementation of an Environmental Management System for sustainable growth.*
- *Provision of environmental training for staff to generate understanding and awareness of the global situation.*
- *Obtaining ISO 14001 certification for our Environmental Management System.*

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Towards a Quality Future



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Putting this report together has been a collective effort, just as our Environmental Programme requires a collective effort from all of us within the Department. As this is our first Corporate Environmental Report, we have taken a traditional route and published this report as a booklet. Our objective has been to document and provide a clear view of our activities in the hope that this report will inspire every one of us to keep the vision of a green and sustainable future always in our minds and to commit ourselves to a way of life that will make this future possible.

With the support and awareness of the community, our customers and our staff, our environmental programmes will gather increasing momentum and will be more effective in improving the quality of our lives and of our future environment.



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The Quest for Quality

The Role and Philosophy of the Electrical and Mechanical Services
Department

The mission of the Electrical and Mechanical Services Department (EMSD) is to provide government departments, public institutions and the community with a comprehensive range of professional, reliable and cost effective services in the areas of building services, electrical, mechanical, gas and electronic engineering.

Our prime objective is to deliver responsive and dependable services for the benefit of the community anywhere, anytime. Closely woven into the daily life of the people of Hong Kong, EMSD's wide-ranging services are very much part of the fabric of society. Operation and maintenance services at the airport, hospitals, schools, housing estates, highways and public recreation facilities illustrate EMSD's diverse portfolio of responsibilities.

Often unseen by the public, EMSD nevertheless plays a valuable supporting role both helping and advising public service organisations in Hong Kong. We have been and will continue to provide reliable technical support and advice to our clients whose services are essential to make our community a better place to live, work, relax and enjoy. We also shoulder the responsibility of drafting and enforcing safety legislation relating to electricity, gas and many electrical and mechanical installations to ensure public safety.

With a team of more than 5,000 professional engineers and technical staff, the Department fields one of the finest teams in Hong Kong. Coupled with our Quality Policy - "EMSD is committed to total quality management towards service excellence and customer satisfaction" and our traditions for excellence, EMSD has carved a reputation both for quality and reliability among our customers.

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