

機電工程署規管服務 - 業務概覽

Electrical and Mechanical Services Department
Regulatory Services - An Achievements Overview



節能樂安居

Save in Safe Homes



抱負

我們的抱負，是要成為促使香港在機電安全及善用能源方面，都達到世界首要都會水平的政府機構。

使命

我們的使命，是確保機電及能源科技均以安全、可靠、經濟及環保的方式得以善用，並藉此促進社會的安全及提升生活質素。

信念

專業才能
誠信
可靠
承擔



Vision

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

Mission

Our mission is 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

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重要活動

安全品質的標記—GU標誌

截至2003年9月為止，已有683個型號的住宅式氣體用具獲得GU標誌強制審批計劃批准。我們亦已於年內完成對本地進口商和分銷商的巡查，確保市面出售的煮食爐、熱水爐、乾衣機及手提卡式石油氣爐等氣體用具均符合該審批計劃規定的安全及品質標準。

Safety Assurance by GU Mark

As of September 2003, 683 models of domestic gas appliances had been approved with the GU Mark under the mandatory approval scheme. Inspection on local importers and distributors was completed during the year to ensure all the relevant gas appliances, namely, cookers, water heaters and clothes dryers and portable cassette cookers, available in the market are in compliance with the mandatory requirements on safety and quality standards.

第三者損毀事故數目下降

自修訂有關安全規例後，地下氣體喉管和供電電纜損毀事件的數目在過去數年大幅下降。地下氣體喉管損毀的事故由1994年的120宗減至2002年的48宗；而供電電纜損毀事故的數目則由1999年的814宗減至2002年的313宗。

Third-party Damage Incidents in Decline

There has been a considerable drop in both the incidents of damage to underground gas pipes, and electricity supply lines, due largely to enhancements in relevant regulations in the last few years. The incidents of damage to underground gas pipes fell from 120 in 1994 to 48 in 2002. The number of electricity supply line damage incidents also decreased from 814 in 1999 to 313 in 2002.

與內地部門簽訂合作安排

為進一步確保產品及設備安全，我們與中華人民共和國國家質量監督檢驗檢疫總局（國家質檢總局）簽訂合作安排。有關安排不單促進兩地合作，亦加快了對問題產品來源的調查。在2003年年初爆發非典型肺炎期間，回收兩款在內地製造的有問題的紫外光燈正是最佳例證。

Cooperation Arrangement with Mainland Authorities

The cooperation arrangement with the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China signified our ongoing drive to strengthen product and equipment safety. The arrangement not only fosters a closer working relationship, but also speeds up the investigation of the source of any problematic product, as evidenced in the recall case of two models of UV-C lamps in the midst of the SARS outbreak in early 2003.



Achievements and Initiatives

成效為本建築物能源效益守則

機電工程署於2003年4月推出一份「成效為本建築物能源效益守則」。新的能源守則與其他四本守則（即空調、照明、電力和升降機及自動梯裝置守則）不同之處，是它採用了總能源預算法，提倡更具彈性和創新的建築物設計。新守則提供另一個途徑，讓建築物符合香港建築物能源效益註冊計劃的規定。

Performance-based Building Energy Code

A new Performance-based Building Energy Code was introduced in April 2003. It takes a total-energy-budget approach and allows more flexibility and innovative designs that are not credited under the existing four codes of air-conditioning, lighting, electrical, and lift and escalator systems. The new code provides an alternative approach to the four codes for purposes of complying with the Hong Kong Energy Efficiency Registration Scheme for Buildings.

能源效益及節能獎

為了配合政府推廣能源效益和節約能源的政策，亦顯示政府身體力行，致力節約能源，機電工程署在2003年8月舉辦香港能源效益及節能比賽。這項比賽是為政府各決策局和部門而設，為期一年，為同類比賽的第一個。這項比賽不單鼓勵政府各決策局和部門節省能源，亦表揚採用良好方法，在節能方面有實際成績的決策局和部門。

Awards for Energy Efficiency and Conservation

In tandem with the government's initiative to promote energy efficiency and conserve energy, EMSD in August 2003 launched a one-year competition among government bureaux and departments, advocating the government's lead in the drive for energy saving. The first of its kind in Hong Kong, the newly created award scheme aims to encourage government bureaux and departments to practise energy conservation and efficiency, and to recognise those who demonstrate quantifiable energy savings and best practices.

機電安全香港通2003

機電工程署連續3年與業界主要機構合辦「機電安全香港通」運動。我們製作了一系列宣傳短片及童話故事，透過電視和電台帶出有關機電安全及能源效益的訊息。此外，我們在2003年11月於九龍公園舉行一個戶外嘉年華會，吸引近萬名市民參加。

E&M Safety Campaign 2003

For the third year in a row, EMSD has teamed up with key industry players to organise the E&M Safety Campaign. A series of drama episodes and fairy tales were developed to deliver safety and energy efficiency messages on television and radio. Apart from media publicity, the campaign also featured an outdoor carnival in Kowloon Park in November 2003, attracting nearly 10,000 people for a day of fun.



高層管理人員

左起：吳鴻成先生、黃達平先生、黎仕海先生、何光偉先生、黎偉雄先生、吳勇勢先生

From Left : Mr Ng Hung-shing, Mr Uy Tat-ping, Mr Lai Sze-hoi, Mr Ho Kwong-wai, Mr Lai Wai-hung, Mr Ng Yung-sai



Senior Management

署長 Director

黎仕海太平紳士
Mr Lai Sze-hoi, Roger, JP
機電工程署署長
Director of Electrical and
Mechanical Services

副署長 Deputy Director

何光偉太平紳士
Mr Ho Kwong-wai, JP
副署長 / 規管服務
Deputy Director / Regulatory Services

助理署長 Assistant Directors

黃達平先生
Mr Uy Tat-ping
助理署長 / 能源效益
Assistant Director / Energy Efficiency

黎偉雄先生
Mr Lai Wai-hung
助理署長 / 氣體及一般法例
Assistant Director /
Gas & General Legislation

秘書 Secretary

吳勇勢先生
Mr Ng Yung-sai, Augustine
主任秘書
Departmental Secretary

會計師 Accountant

吳鴻成先生
Mr Ng Hung-shing, Robin
部門會計師
Departmental Accountant

黎仕海太平紳士
Mr Lai Sze-hoi, Roger, JP

「一切準備就緒，隨時可以支援政府推行有關的項目。」

本人非常高興，可藉此機會回顧機電工程署規管服務過去年來的工作以及正在籌劃中的重要項目。

與機電安全有關的幾項新法例近年開始生效，我們的工作亦進入實施和執行階段。同時，幾項關於可再生能源和能源效益的顧問研究，亦於2003年完成，並已提交立法會審議。一切準備就緒，隨時可以支援政府推行有關的項目。

執行新的安全規定

要保障公眾安全，我們必須擬備、實施及執行所有相關的規例和工作守則。我們於2003年引入新的審批計劃，即GU標誌計劃，以加強對住宅式氣體用具的品質管制；並且更新架空纜車規例，俾能配合世界各地在這方面的最新發展。此外，我們修訂了有關電力線路的工作守則，以反映現時業界的需要和安全守則。

為建設一個更節能的香港奠下基礎

為配合政府積極推動本港可持續發展，機電工程署於2000年展開數項與能源有關的研究，包括全港性採用水冷式空調系統研究、東南九龍發展區採用區域性供冷系統研究及香港應用可再生能源的可行性研究。

採用水冷式空調系統研究的其中一項建議，就是採用蒸發式冷卻塔計劃。計劃建議廣泛使用淡水冷卻塔，現已推廣至全港共54個指定地區，將傳統氣冷式系統改裝為較節能的蒸發式冷卻系統的申請亦大幅上升。

區域性供冷計劃是另一個獲推薦的水冷式空調計劃，研究結果顯示，在東南九龍發展區採用區域性供冷系統，可以節省大量能源。

至於應用可再生能源的可行性研究亦進展順利，第一階段研究的公眾諮詢工作亦已完成。第二階段集中研究應用太陽能，那是本港最主要的可再生能源來源。我們已於灣仔政府大樓安裝光伏板，作示範及評估用途，為期12個月。我們亦已開展風力數據測量計劃，在幾個地點蒐集現場數據，以評估風力發電的潛力。

尋找和實施創新的節能方案，並善用可再生能源，誠然是本港的新挑戰，並能為我們帶來許多新機遇。上述研究為我們定下發展綱領和方向。我們現正探討推行有關方案的可行性。

Message from the Director

♥ 巡查本地分銷商以確保市面出售的氣體用具均貼上符合規定的GU標誌。
Inspection of local distributors ensures domestic gas appliances bear the mandatory GU Mark.

“ All critical groundwork has been completed, and we are ready to support the government on further developments. ”



I am delighted to present this overview of the recent work and achievements of the Regulatory Services of the Electrical and Mechanical Services Department, as well as our major initiatives in the pipeline.

Several new pieces of legislation on E&M safety came into effect in recent years, taking our work in those areas into the implementation and enforcement stages. At the same time, a number of major consultancy studies on renewable energy and energy efficiency were completed in 2003 and presented to Legislative Council for deliberation. All critical groundwork has been completed, and we are ready to support the government on further developments.

Enforcement of New Safety Requirements

Protecting public safety requires the preparation, administration and, most of all, enforcement, of all relevant regulations and codes of practice. The new approval scheme, or so-called GU Mark, was recently introduced to heighten quality control of domestic gas appliances. The regulation on aerial ropeways was updated to keep pace with the latest international developments. The code of practice for electricity wiring was also amended and now reflects the latest needs and safety practices of the trade.

Groundwork for a More Energy-Efficient Hong Kong

EMSD undertook several energy-related studies in 2000 as part of the government's initiative to foster sustainable development in Hong Kong. These included a study on the territory-wide implementation of water-cooled air-conditioning systems (WACS),

the implementation study for a district cooling system in South East Kowloon Development, and a study on the potential applications of renewable energy in Hong Kong.

One of the recommended schemes in the WACS implementation study, the cooling tower scheme, which advocates the wider use of fresh water in evaporative cooling towers, is well underway. The expansion of the scheme to cover 54 designated areas throughout the territory has triggered an upsurge in the number of applications for conversion from the conventional air-cooled system to the more energy efficient evaporative cooling system.

Another recommended WACS scheme is the district cooling scheme. The study findings show that significant energy savings can be achieved by implementing district cooling system in the South East Kowloon Development area.

Our study on the potential applications of renewable energy gathered pace with public consultation on the first stage of the study completed. The second stage of the renewable energy study focuses on solar energy which is deemed a principal source of renewable energy in Hong Kong. Photovoltaic panels have already been installed at Wanchai Tower for demonstration and evaluation purposes over a 12-month period. We have also started a wind data measurement programme to gather field data for evaluation of wind energy potentials.

Identifying - and implementing - innovative solutions to achieve energy efficiency and to utilise renewable energy is indeed an exciting area for Hong Kong. The study offers vision and direction,



◀ 我們舉辦節能簡介會，協助政府政策局及部門達到6%的節省目標。
Energy savings briefings held to assist government bureaux and departments to achieve the 6% savings target.

協助政府節省能源

環境運輸及工務局於2003年3月發出指令，促請各政府決策局和部門在4年內節省共6%能源。為此，機電工程署推出不少措施，包括舉行連串介紹節能計劃的簡介會，以協助各決策局和部門達到節能目標。這些簡介會大受各政府部門同事的歡迎。我們很榮幸能擔任各部門的技術顧問，協助他們節省能源，減少支出。

機電工程署推出「香港能源效益及節能獎(政府機構)」。這項比賽專為政府決策局及部門而設，為同類比賽的第一個，亦是本港推廣節能的一個里程碑，充分顯示出政府身體力行的決心。

這項比賽不單鼓勵政府決策局和部門節約能源，亦表揚採用良好方法，在節能方面有實際成績的決策局和部門。

擴大公眾教育及宣傳的範圍

我們相信教導和薰陶比嚴刑峻法更為有效，所以教育公眾，宣揚機電安全和能源效益計劃一直是我們的重點工作之一。我們藉着深入接觸社會各階層，擴大宣傳和教育的層面，對象包括學生、幼稚園學童及一般市民。我們採

取新穎有趣的方法，例如合辦宣傳活動及外展活動，將訊息傳遞給市民。活動詳情載於內文，此處不贅。

與業界溝通亦是本署其中一項主要工作，我們出版《電力快訊》和《智能》等通訊刊物，和業界建立有效的溝通渠道。此外，我們舉辦不同形式的活動，例如問答比賽和研討會等，讓業界能獲得最新的專業知識和工作守則資料。

我們全心全意，致力使香港在機電安全和能源效益方面再上一層樓，我們正逐步朝着這目標邁進。

我們能夠朝著目標舉步邁進，實在有賴副署長／規管服務何光偉先生及其隊伍的努力。他們努力不懈，竭誠服務，務求令香港市民安居樂業，本人謹此衷心致謝。

黎仕海

機電工程署署長
黎仕海

♥ 節能比賽顯示政府身體力行，致力節約能源。
Award scheme launched to demonstrate Government's role in taking the lead in saving energy.

♥ 冷卻塔計劃逐漸得到公營及私營機構認同及採用。
The cooling tower scheme is gaining popularity in both public and private sectors.

♥ 我們的教育外展活動深入社會各階層，對象包括學生及一般市民。
Our education programme reaches out to every stratum of the community from students to the average citizen



and may open up many new opportunities. We are now looking into the second level of feasibility of implementation.

Helping the Government Save Energy

In response to the mandate from the Environment, Transport and Works Bureau in March 2003 to urge all government bureaux and departments to save a total of six per cent on energy consumption over four years, EMSD has developed many initiatives to help bureaux and departments achieve the savings target, including a series of briefings on energy saving tips and programmes. These were well attended by colleagues from various government departments. We are happy to take on the role of technical advisor to fellow departments to help them save energy and reduce expenditure.

EMSD has also taken the initiative to develop an award scheme for government bureaux and departments - the first of its kind in the territory. A milestone project in its own right, the Hong Kong Awards for Energy Efficiency and Conservation in Government exemplifies the government's commitment to take the lead in this drive.

The award scheme not only encourages government bureaux and departments to practise energy conservation and efficiency, but also recognises those who demonstrate quantifiable energy savings and best practices.

Broadening the Reach of Public Education and Publicity

Public education and publicity of E&M safety and energy efficiency programmes have always been among our major activities, as we believe that persuasion is more effective than policing.

Reaching out to the different strata of the community underscores our strategy of broadening our reach. Our target groups include students, kindergarten pre-schoolers, and, of course, the average citizen.

I am pleased to report that our colleagues have found increasingly interesting and innovative ways to convey their messages to the public and their stakeholders, such as joint promotions and outreach programmes, which you will read later in this publication.

Trade communications is also a key aspect of our work. Newsletters such as *Electricity News* and *EnergyWits* have been established as useful communications channels within the trade. In addition, a variety of popular formats - from quizzes to seminars - have been employed to keep the trade informed and updated on the latest in professional know-how and codes of practice.

I believe our Department has made earnest and significant strides in bringing Hong Kong closer to our goals of achieving new heights in E&M safety and in energy efficiency.

For all of their efforts and dedication in bringing us towards those goals, and for their ongoing pursuit of making Hong Kong a safer and better place to live, I wish to express my wholehearted gratitude to our Deputy Director of Regulatory Services, Mr K W Ho and his team.

Roger S H Lai
Director of Electrical and Mechanical Services

何光偉太平紳士
Mr Ho Kwong-wai, JP

「政府在過去數年頒佈了一些安全規例，今日喜見成果。」

「節能樂安居」是這本刊物的主題，亦總結了我們近來工作的方向。

確保安全

政府在過去數年頒佈了一些安全規例，今日喜見成果。自修訂有關規例後，地下氣體喉管和供電電纜損毀事件的數目得以大幅下降。地下氣體喉管損毀的事故由1994年的120宗減至2002年的48宗；而供電電纜損毀事故的數目則由1999年的814宗減至2002年的313宗，在3年間減少了超過60%。期間道路挖掘工程不斷增加，由60,000宗增至90,000宗，在工程增加的情況下損毀事故不增反減，實在令人鼓舞。

與中華人民共和國國家質量監督檢驗檢疫總局（國家質檢總局）簽訂合作安排，是我們不斷努力，確保產品及設備安全的最佳例證。有關安排不單促進內地與香港特別行政區的合作，亦加快了對問題產品來源的調查。例如在2003年年初爆發非典型肺炎期間，有兩款在內地製造的紫外光燈於本港出售，這兩款燈雖聲稱能殺死家居細菌，但我們卻發現它們並不適合家居使用；在國家質檢總局的協助下於短時間內找到製造商，並立即停止進口這批危險產品。

有關推廣家居安全的教育活動亦喜見成效。家居意外的數目由2000年的82宗減至2002年的65宗，但我們沒有自滿，反而加強執行電力裝置的定期測試規定方面的工作。業主每5年須測試裝置一次，若屢經勸告仍不遵守有關規定，我們便會採取法律行動。這種做法相當湊效，並促使其他市民明白必須遵守有關規例。

至於氣體安全方面，我們於2003年初引入新的住宅式氣體用具審批計劃，其GU標誌旋即成為信心的標誌。由於我們對各本地進口商和分銷商進行巡查，並且大力宣傳，令用戶熟悉新的GU標誌。現時市面上有售的住宅式氣體用具，均已貼上這個標誌。

此外，我們又加快進行新項目，包括東涌纜車和迪士尼主題公園等計劃。架空纜車規例已完成修訂，配合東涌纜車計劃的發展。而經過詳細的審閱，我們亦於2003年9月審批有關項目機電部份的設計。由於迪士尼主題公園計劃正進行得如火如荼，我們的專責隊伍正全力審核各種機動遊戲機的設計，以確保能維持最高的安全標準。

Operations Review

♥ 與國家質檢總局簽訂合作安排，加強產品及設備的安全。
The cooperation arrangement with the mainland's AQSIQ signifies our drive to strengthen product and equipment safety.

“The safety regulations promulgated in the last few years have come to bear fruit.”



Our choice of theme for this publication, "Save in Safe Homes", captures the essence of our recent work: safety and saving energy.

On Safety

The safety regulations promulgated in the last few years have come to bear fruit. There has been a considerable drop in both the incidents of damage to underground gas pipes, and electricity supply lines, due largely to enhancements in relevant regulations. The incidents of damage to underground gas pipes fell from 120 in 1994 to 48 in 2002. The number of electricity supply line damage incidents also decreased from 814 in 1999 to 313 in 2002, representing a reduction of more than 60 per cent within three years. It was no easy feat considering that roadwork activities were on the rise - from about 60,000 to almost 90,000 during the period.

The cooperation arrangement with the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ), signified our ongoing drive to strengthen product and equipment safety. The arrangement not only fosters a closer working relationship between Mainland and Hong Kong Special Administrative Region, but also speeds up the investigation of the source of any problematic product, as evidenced in the recall case of two models of UV-C lamps in the midst of the SARS

outbreak in early 2003. Manufactured in mainland China, the two models were put in the Hong Kong market claiming to kill germs in homes, but were then found to be not suitable for domestic use. With the help of AQSIQ, we were able to identify and locate the manufacturers within a short time and stopped the importation of these hazardous products right away.

Our campaign for "safer homes" has resulted in a downward trend in the number of domestic accidents - from 82 in year 2000 to 65 in year 2002. But we are not complacent. On the contrary, we have stepped up our efforts to enforce the periodic testing of electrical installations. For owners who failed to comply with the five-year testing requirements despite our repeated reminders, we have taken legal action as a last resort. This proved to be effective and sent a strong signal to others to comply with the regulation.

In the area of gas safety, the GU Mark was introduced with the new approval scheme of domestic gas appliances in early 2003, and has fast become a household label. All of the domestic gas appliances currently available in the marketplace bear this mark, due largely to our thorough inspection of local importers and distributors as well as our publicity work to familiarise households with the new GU Mark.

▼ 節能設備廣受公營及私營機構歡迎，超級市場及郵政局便是其中例子。
Energy saving equipment is well received by both private and public sectors -
as evidenced in a supermarket and a post office.



節約能源

鑑於T5照明技術深受市場歡迎，我們再接再厲，繼續推廣新的節能設備，並於2003年推出感應式電燈。我們又進行試驗計劃，結果顯示新的感應式照明系統不單能節省能源，且其照明度亦較佳，預期照明業界會有興趣研究能否將這種產品推出市場。

推行能源效益標籤計劃是能源效益事務處的其中主要工作。推行該計劃為本港節省了不少能源，估計佔能源節省量的最大部分。能源效益標籤計劃已擴展至鐳射打印機和抽濕機，令計劃涵蓋的產品增至11種。至於常用家庭用具類別中（如慳電膽、雪櫃和冷氣機等），估計在2002年，已貼有能源標籤的用具佔銷售量約60%至80%。

建築物能源效益註冊計劃是我們的另一個重點項目，有關計劃已踏入第五個年頭。截至2003年年底為止，我們已向約160幢建築物發出220張註冊證書。除了現有的空調、

電力、照明和升降機及自動梯系統守則外，我們又引入以成效為本的能源守則。新守則提倡採用總能源預算法，並鼓勵在建築物加入創新的節能設計。

這些都是我們近來的工作重點，個別計劃的詳情可參閱內文。部分員工、伙伴和商會更與我們分享寶貴經驗，本人謹此致謝。

我們能實現「節能樂安居」這個目標，全賴規管服務的員工辛勤工作，克盡厥職，本人謹藉此機會向全體人員致意。

何光偉

副署長／規管服務

何光偉

♥ 我們致力確保迪士尼主題公園內的各種機動遊戲機設計與建造，達到最高的安全標準。
We work to ensure the highest safety standards in the design and construction of the various amusement rides in Disney Theme Park.

♥ 160多幢建築物已納入能源效益註冊計劃中。
More than 160 buildings are registered under the Energy Efficiency Registration Scheme for Buildings.



New projects gathering steam include the Tung Chung cable car project and Disney Theme Park. The aerial ropeways regulation has been updated to keep pace with the Tung Chung cable car project. After examining the submissions by the project team, we approved the E&M part of the design in September 2003. With the preparation work for Disney Theme Park proceeding at full speed, our dedicated team has been working conscientiously to examine the designs of the various amusement rides to ensure the highest safety standards would be upheld.

On Saving Energy

The encouraging market response to the T5 lighting technology has prompted us to continue our exploration of the latest in energy saving equipment, hence the introduction of induction lamps into Hong Kong in 2003. A pilot project is well underway and findings revealed that the new induction lighting system brought about not only benefits in energy saving, but also a better illumination level. We expect the lighting industry would be interested to investigate the marketability of the product.

The energy efficiency labelling scheme is a key initiative of our Energy Efficiency Office and probably accounts for the highest percentage of energy savings achieved in the territory. The scheme has been further expanded to cover laser printers and dehumidifiers, making a total of 11 product categories. For popular domestic appliances such as compact fluorescent lamps, refrigerators and room coolers, the estimated

penetration rate of energy labelled appliances by sales volume ranged from around 60 per cent to 80 per cent in 2002.

Another milestone initiative is the energy efficiency registration scheme for buildings, now in its fifth year. As of late 2003, some 220 registration certificates for about 160 buildings had been issued. We have added a performance-based energy code to the existing four codes for air-conditioning, electrical, lighting, lift and escalator systems. The new energy code advocates a total-energy-budget approach and encourages innovative energy efficient designs to be incorporated into a building.

These are the highlights of our recent work. Details of individual projects can be found in the following pages. Some of our staff, partners and trade associates have also shared their experience on specific projects in the following pages, and I thank them for their effort and contribution.

Lastly, I would like to take this opportunity to express my warmest thanks to all our staff at the Regulatory Services. Their good work has helped make "Save in Safe Homes" possible for every one in Hong Kong.

Ho Kwong-wai
Deputy Director / Regulatory Services



推廣能源效益

Promoting Energy Efficiency



「幾項關於可再生能源和能源效益的顧問研究已於2003年完成。」

"A number of major consultancy studies on renewable energy and energy efficiency were completed in 2003."

推廣能源效益



引入更多節能設備

由於各界對較早時引入的T5照明系統反應良好，本署在2003年引入另一種節能設備——感應式電燈。我們進行了一項試驗計劃，為九龍灣室內運動場一個壁球場安裝四組照明器，每組照明器由兩個150瓦特的感應式電燈和電子鎮流器組成，以取代原有的金屬鹵化物照明器。

試驗結果顯示新的感應式照明系統可節省約25%電力，平均亮度亦高出50%，由410勒克斯增至710勒克斯。感應式電燈非常耐用（可令維修費減少），顯色指數亦高，可無閃動即時亮燈，而且光量衰減較低。

感應燈不僅適用於運動場地，亦適用於商業和工業大廈。

推出「成效為本建築物能源效益守則」

機電工程署與一個由專業機構、業界團體、學術機構和政府決策局及部門代表組成的專責小組，根據一項顧問研究結果，編定了一份「成效為本建築物能源效益守則」。

新的能源守則與其他四本守則（即空調、照明、電力和升降機及自動梯裝置守則）不同之處，是新守則採用了總能源預算法，容許建築物各組成部分和系統在節能表現上互相補足。

新守則着重建築物的總能源消耗量，提倡採用創新的建築設計。除某些基本要求外，新守則要求建築物每年的耗電量少於虛擬參考建築物的耗電量。

新守則提供另一個途徑，讓建築物符合香港建築物能源效益註冊計劃的規定，而設計者將可採用更具彈性和創新的設計。

水冷式空調系統

全港採用水冷式空調系統的研究已經完成，我們亦已公布研究報告摘要，以諮詢各界人士的意見。

估計在採用較節能的水冷式空調系統後，每年可為本港減少排放溫室氣體946,000噸，非住宅樓宇在空調方面可節省能源達35%。以目前的電費水平計算，每年可為本港節省電費12億元。

區域性供冷系統

我們已經展開兩項有關區域性供冷系統的研究，一項在東南九龍發展區，另一項則在灣仔及銅鑼灣區。東南九龍發展區的研究工作已完成，包括分析經濟和財務數據、檢討機制安排和環境事宜、評估運作風險及制定實施架構。

Promoting Energy Efficiency

◀▶ 新節能產品 感應式電燈 (左)
可節省25%電力，平均亮度更高出50%。
The new energy-efficient induction lamp (left) boasts a 25% saving in energy and a 50% increase in illumination levels.



▶ 愈來愈多具能源效益的建築物申請加入我們的註冊計劃。
An increasing number of energy-efficient buildings have been registered under our scheme.



Introducing More Energy Efficient Equipment

Following the encouraging response to the T5 lighting system introduced earlier, EMSD in 2003 introduced more energy efficient equipment - induction lamps. Four sets of luminaries, each equipped with two 150W induction lamps and electronic ballasts, were used to replace the original metal halide luminaries at a squash court in Kowloon Bay Indoor Games Hall in a pilot project.

Results revealed that the new induction lighting system achieved a saving of about 25 per cent in power consumption and a 50 per cent increase in average illumination levels from 410 lux to 710 lux. In addition, induction lamps boast an extremely long life (hence a lower maintenance cost), high colour rendering index, instant flicker-free starting and lower luminous depreciation.

It is considered that induction lamps are suitable for application in sport venues as well as commercial and industrial premises.

Performance-based Building Energy Code Introduced

Based on a consultancy study, EMSD, in conjunction with a taskforce comprising representatives from professional

institutions, trade organisations, academia, and government bureaux and departments, developed the Performance-based Building Energy Code.

Unlike the other four energy codes, that is, air-conditioning, lighting, electrical, and lift and escalator systems, the new building energy code takes a total-energy-budget approach and allows energy trade-offs to be made between different components and systems of a building.

The code accentuates the requirements of the overall energy performance of a building and advocates a higher level of innovative building design. Apart from certain basic requirements, it also requires the building's annual energy consumption be less than that of a hypothetical reference building.

The new code provides an alternative approach to the four codes for purposes of complying with the Hong Kong Energy Efficiency Registration Scheme for Buildings, as it allows more flexibility and innovative designs that are not credited under the existing four codes.

“**水冷式空調系統成本低，好處多，實為不二之選。**
WACS is an obvious choice considering its costs and benefits.”

香港數碼港管理有限公司梅享富
Dennis Mui, Hong Kong Cyberport
Management Co. Ltd.



數碼港的水冷式空調系統在2002年4月開始啟用。Cyberport adopted the Water-cooled Air-Conditioning system (WACS) in April 2002.

冷卻塔系統

為推廣水冷式空調系統，本署推出非住宅樓宇蒸發式冷卻塔廣泛使用淡水的試驗計劃。

自試驗計劃於2003年擴展至54個指定地區後，以較節能的蒸發式冷卻塔取代傳統氣冷式系統的申請便大幅增加，相信可節省能源達14%至20%。

在撰寫本文時，我們共收到54宗申請，涉及的總樓面面積約為2,045,000平方米。估計在這54宗申請獲批准後，每年在用電方面可節省2,200萬元，至於溫室氣體方面，則可減少排放17,000噸二氧化碳。

能源效益標籤計劃

能源效益標籤計劃於2003年擴展至鐳射打印機和抽濕機，使這項計劃涵蓋的產品增至11類。

除協助消費者選用節能產品外，能源效益標籤計劃亦可提高市民節約能源及保護環境的意識，鼓勵製造商和市場淘汰節能表現較差的產品，以及達到節約能源和改善環境的目的。

調查結果顯示，在常用電器類別中（如慳電膽、雪櫃和冷氣機等），估計在2002年，已貼有能源標籤的用具佔銷售量約60%至80%。

為了向業界推廣標籤計劃，本署曾於2003年3月為業界舉辦研討會，有超過50名家庭電器製造商、代理商、供應商、進口商和分銷商的代表參加。我們向業內人士解釋該計劃的目的，尤其是供應商及零售員工，使他們得到有關資料，以便把合適的節能產品引入市場及在推銷產品時向顧客講解產品詳情。

標籤計劃現涵蓋8類家庭電器（家用雪櫃、冷氣機、洗衣機、電乾衣機、慳電膽、儲水式電熱水爐、電飯煲和抽濕機）及3類辦公室設備（影印機、多功能辦公室設備和鐳射打印機）。

我們計劃在2003年年底把電視機和液晶體顯示器納入計劃內。

已發出的能源標籤的累積數目
Cumulative Number of Energy Labels Issued

年份 Year	1998	1999	2000	2001	2002
已發出的標籤數目 No. of Labels Issued	19	384	819	1203	1576

♥ 水冷式空調系統證明不但更具能源效益，並可減少排放溫室氣體。
Water-cooled air-conditioning systems prove more energy efficient and reduce greenhouse gas emissions.

♥ 工程師正測試一部抽濕機的能源效益。
Our engineer testing the energy efficiency of a dehumidifier.



Water-cooled Air Conditioning Systems

The Territory-wide Implementation Study for Water-cooled Air Conditioning Systems (WACS) in Hong Kong has been completed and the executive summary of the study has been published for consultation.

It is estimated that the more energy efficient WACS has a potential to reduce greenhouse gas emissions by 946,000 tonnes a year in Hong Kong, and can save up to 35 per cent of energy used for air conditioning in non-domestic buildings. Ultimately, this would translate into \$1,200 million in energy savings a year for the community, at current electricity costs.

District Cooling System

Two implementation studies for district cooling system (DCS) - one in South East Kowloon Development (SEKD), and one in Wanchai and Causeway Bay (WCCB) - were commissioned. The one for SEKD has been completed, with economic and financial data analysed, institutional arrangements and environmental issues reviewed, operational risks assessed and implementation framework identified.

Cooling Tower Scheme

The pilot scheme to advocate the wider use of fresh water in evaporative cooling towers in non-domestic buildings is one of the initiatives undertaken by EMSD to promote WACS.

Since the expansion of the scheme in 2003 to cover 54 designated areas throughout the territory, we have experienced

a jump in the number of applications for the conversion of the conventional air-cooled system to the more energy efficient evaporative cooling tower, which has a potential of achieving an energy saving of 14 to 20 per cent.

At the time of writing, a total of 54 applications were received, representing a total floor area of about 2,045,000 square metres. It is estimated that the annual energy savings arising from implementation of these 54 cases would be about \$22 million, and that greenhouse gas emissions would be reduced by 17,000 tonnes of carbon dioxide.

Energy Efficiency Labelling Scheme

The Energy Efficiency Labelling Scheme was extended to laser printers and dehumidifiers in 2003, bringing the total number of product categories under the scheme to 11.

While helping consumers to select energy-saving products, the scheme aims to promote greater public awareness on conserving energy and protecting the environment, stimulate the manufacturers and the market to phase out less energy efficient products, and achieve actual energy savings and environmental improvements.

Survey findings showed that for popular electrical appliances such as compact fluorescent lamps (CFL), refrigerators and room coolers, the estimated penetration rates by sales volume ranged from around 60 per cent to 80 per cent in 2002.

“凡有助提高能源效益的嶄新技術，我們均勇於嘗試。
When it comes to energy efficiency, we never hesitate to try out the latest technologies.”

九龍灣室內運動場盧劍明
Lo Kim-ming, Kowloon Bay Indoor Games Hall



九龍灣室內運動場的管理人員對最新的節能技術向表支持，繼T5照明系統試驗計劃成功推行後，他們又在其中一個壁球場安裝感應式電燈。

Kowloon Bay Indoor Games Hall operators, always supportive of the latest technologies in energy efficiency, installed Induction Lamps on one of their squash courts following the successful T5 lighting system pilot programme.



石油氣車輛計劃

截至2003年9月止，在路面行駛的石油氣的士逾17,000部，石油氣小巴則逾600部，投入服務的石油氣加氣站共有44個，並有超過900名曾受訓的技工獲機電工程署註冊。本署於2002年8月推出一項計劃，鼓勵小巴選用石油氣，新登記小巴中有近85%選用石油氣。

LPG Vehicle Scheme

As of September 2003, there were more than 17,000 LPG taxis and 600 LPG light buses on the road, 44 filling stations in service, and more than 900 trained mechanics registered with EMSD. About 85 per cent of the owners of newly registered light buses have chosen LPG model since the introduction of the incentive programme in August 2002.

可再生能源

我們已就本港能否應用可再生能源第一階段研究的結果和建議諮詢公眾，並已收集市民和有關人士的意見。機電工程署現正協助研究意見書內容，以便制定日後在本港廣泛應用可再生能源的策略。

第二階段研究會探討太陽光伏板技術的應用。我們已於2002年年底在灣仔政府大樓外安裝面積為500平方米的光伏板，並正收集和分析有關數據，以評估光伏系統的效能和表現，為期12個月。

我們又邀請立法會環境事務委員會委員參觀光伏板裝置，向他們講述安裝光伏板的目的和詳情。

除太陽能外，機電工程署現正研究在本港使用風能的可行性，並已展開預備工作，以便收集本港多處地點的風力數據，為期1年，從而評估風力發電的潛力。

能源效益事務處於1994年成立，宗旨是在香港推動能源效益及節能計劃。能源效益事務處的工作結合了我們對最新科技的了解，以及對香港社會需求的認識。能源效益事務處負責制訂指引及出版工作守則，並積極參與研究有效使用及節約能源的工作小組和相關的委員會。為了協助香港節省能源和保護、保育及改善環境，我們推行了連串措施，包括推行能源管理、管理最終能源用途資料庫、制訂基準、推行能源效益標籤計劃和能源需求管理計劃。能源效益事務處亦率先使用創新的節能科技，特別是空調、照明和升降機及自動梯的控制系統。我們在這方面的成績，有助香港的可持續發展。

♥ 在灣仔政府大樓收集及分析太陽能數據，以評估廣泛應用光伏技術的可行性。
Solar energy data from Wanchai Tower is collected and analysed to evaluate the wider application of photovoltaic technologies.

♥ 慳電膽等節能產品的市場滲透率正不斷增加。
Energy-efficient products such as the compact fluorescent lamp are gaining increasing market penetration.

♥ 我們借鏡外國經驗，評估在本港採用風力發電的可行性。
Learning from overseas experience, we investigate the feasibility of using wind energy in Hong Kong.



In promoting the scheme to the trade, EMSD organised in March 2003 a trade seminar, which was attended by more than 50 representatives from manufacturers, agents, suppliers, importers and distributors of household appliances. The seminar helped to deliver the mission of the scheme among local trade practitioners, in particular, suppliers who need to have the knowledge for introducing suitable energy-efficient products into the market and retail staff who need to explain product information during sales promotions.

There are now eight categories of household appliances (household refrigerators, air-conditioners, washing machines, electric clothes dryers, compact fluorescent lamps, electric storage water heaters, rice cookers and dehumidifiers) and three types of office equipment (photocopiers and multifunction devices and laser printers) under the labelling scheme.

Plans are to include televisions and LCD monitors in the scheme by the end of 2003.

Renewable Energy

Public consultation has been completed upon the findings and recommendations of the first stage of the study on the potential applications of renewable energy in Hong Kong. Views of the general public and relevant stakeholders were collected and EMSD is now helping to review the submissions with a view of formulating a strategy on the future wide-scale application of renewable energy in Hong Kong.

The second stage of the study investigates the application of solar PV technologies. Photovoltaic (PV) panels measuring 500 square metres were installed at Wanchai Tower in late 2002 and data is being collected and analysed to evaluate the effectiveness and performance of the PV system over a 12-month period.

Members of the Panel on Environmental Affairs of the Legislative Council were invited to visit the PV installation in February and briefed of the objectives and details of the installation.

In addition to solar energy, EMSD is also investigating the feasibility of using wind energy in Hong Kong. Preparatory work is underway to gather wind data at a number of locations in Hong Kong for a year for evaluating wind energy potentials.

The Energy Efficiency Office was established in 1994 to spearhead the drive for energy efficiency and conservation programmes in Hong Kong. We combine an in-depth understanding of the latest technological breakthroughs with knowledge of the precise needs of the Hong Kong community. The Office works to establish guidelines and issue codes of practice, and is actively involved in working groups and related committees that investigate the efficient use and conservation of energy. To help Hong Kong save energy and protect, sustain and improve its environment, we have implemented a range of initiatives, including Energy Management and Demand Side Management programmes, energy end-use database management, benchmarking, and an energy efficiency labelling scheme. The Office is also engaged in pioneering the use of innovative energy-saving technologies, particularly in air conditioning, lighting and lift and escalator control systems. Our successes in this direction will contribute to the sustainable development of Hong Kong.



保障公眾安全 Protecting Public Safety



「與機電安全有關的幾項新法例近年開始生效，我們的工作亦進入實施和執行階段。」

"Several new pieces of legislation on E&M safety came into effect in recent years, taking our work in those areas into the implementation and enforcement stages."

保障公眾安全

▶ 督察監督青衣一個石油氣碼頭的運作情況。
Our inspectors overseeing the operation of a LPG terminal in Tsing Yi.



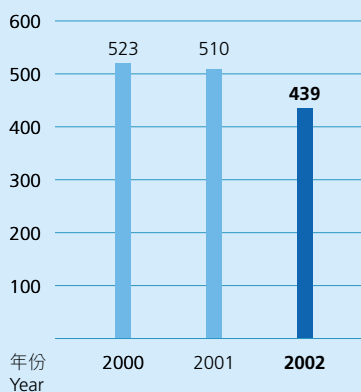
氣體事故數目下降

自1997年起，氣體事故的數目持續下降。與2001年比較，2002年的事故數目下降了差不多15%。

Gas Incidents in Decline

The number of gas incidents has been on a downward trend since 1997. We are pleased to report a drop in 2002 of almost 15 per cent, compared to 2001.

事故數目
No. of Incidents



氣體安全

迅速建立的消費信心標記 — GU標誌

為了提高供本港使用的住宅式氣體用具的安全及品質標準，我們於2003年1月起實施GU標誌強制審批計劃，涵蓋的產品包括煮食爐、熱水爐、乾衣機及手提卡式石油氣爐。凡按國際安全和品質標準及本地操作規定來生產的氣體用具，均會貼上確認產品符合規定的GU標誌，使市民可以一目了然。

截至2003年9月為止，共有683個型號獲得批准。獲批准的住宅氣體用具列載於機電工程署網頁上，供市民參考。

在推廣GU標誌方面，我們製作新的政府宣傳短片，於電視及電台播放，又透過各種渠道，向市民派發40,000多份單張及隨帳單附寄單張予210萬住戶。此外，我們又於公眾地方和車站張貼通告，並於邊境口岸張貼海報，提醒人們不得進口未經批准的住宅式氣體用具在本港使用，違者可被判罰款及入獄。

我們已完成對本地進口商和分銷商的巡查，確保市面出售的氣體用具均符合該審批規定。

Protecting Public Safety

► 巡查店舖有助確保產品安全。
Shop inspection is key to ensuring product safety.



► 石油氣倉內監察注滿石油氣瓶的情況。
Monitoring the filling of LPG cylinders at a depot.



Gas Safety

GU Mark Becomes a Household Label

The GU Mark mandatory approval scheme came into effect in January 2003 to strengthen the safety and quality standards of domestic gas appliances for use in Hong Kong, covering such products as cookers, water heaters and clothes dryers and portable cassette cookers. The GU Mark is a re-assuring symbol and a consumer-friendly means to inform the public that the appliance is produced in accordance with international safety and quality standards as well as local operating requirements.

As of September 2003, a total of 683 models had been approved. The list of approved domestic gas appliances is now available for reference on the EMSD website.

In promoting the GU Mark, a new API has been developed and broadcast on television and radio. More than 40,000 leaflets and 2.1 million bill inserts were distributed to the public through various channels, notices were displayed at public places and transport utility areas, and posters were posted at immigration borders to remind people that importation of non-approved domestic gas appliances for use in Hong Kong constitutes an offence and offenders are subject to a fine and imprisonment.

Inspection on local importers and distributors was completed to ensure the relevant gas appliances available for sale in the market are all in compliance with the mandatory requirements.

“消費者向來重視氣體用具的品質和安全程度，新的GU標誌正能給他們一個信心保證，我當然全力支持！
The new GU Mark gives consumers much sought-after assurance of the quality and safety of the gas appliance. I'm all for it!

氣體分銷商董潤熙
Tung June-hsi, a gas distributor



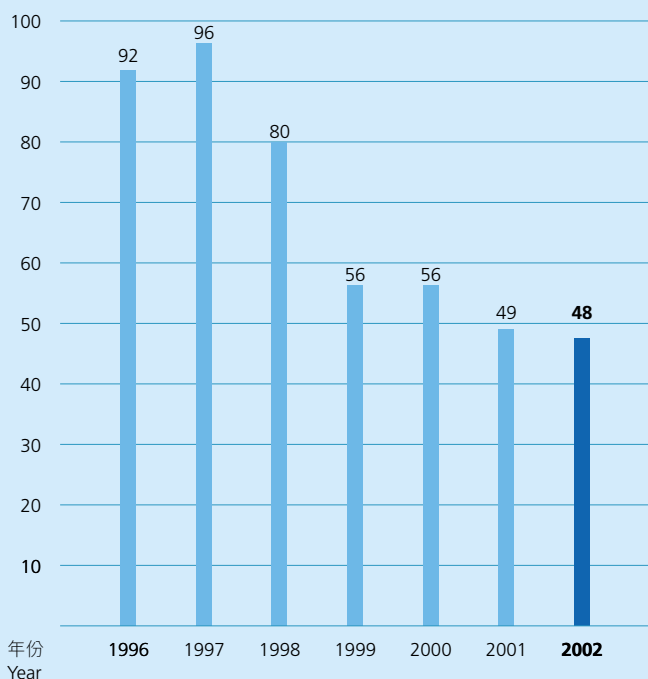
氣體喉管損毀事故數目下降

由於已修訂《氣體安全條例》，且1996年時又引入相關的「避免氣體喉管構成危險工作守則」，氣體喉管損毀事故的數目得以逐步下降。

Damage Incidents of Gas Pipes in Decline

Due to amendments to the Gas Safety Ordinance and the introduction of the relevant code of practice "Avoiding Danger from Gas Pipes" in 1996, we experienced a gradual drop in the number of damage incidents of gas pipes over the years.

事故數目
No. of Incidents



宣傳聘用認可石油氣分銷商提供服務

在出版瓶裝石油氣分銷商工作守則後，機電工程署於2003年重點宣傳只可聘用認可石油氣分銷商提供的服務。我們擬備了資料單張和海報，並透過各種途徑（例如房屋委員會、各區民政事務處和鄉事委員會）派發給住戶。我們亦設計了一個創新的石油氣瓶掛牌，以提醒市民只可聘用認可石油氣分銷商的服務。



▲ 一名督察正利用個人數碼助理檢查石油氣瓶車。
An inspector checking a cylinder wagon using a PDA.

♥ 我們確保本港石油氣的運輸、供應、儲存及使用均符合安全標準。
We work to ensure safety standards in the transport, supply, storage and use of LPG in Hong Kong.



Promoting the Use of Service by Approved LPG Distributors

Following the publication of the Code of Practice for Cylinder LPG Distributors, EMSD in 2003 focused on the promotion of the use of service by approved LPG distributors. Informative leaflets and posters were prepared and distributed to households through different channels such as the Housing Authority, district offices, and rural area committees. An innovative cylinder tag was also designed as a reminder to the general public of the importance of using only approved LPG distributors.

更換鑄鐵氣體喉管

為了加強公眾安全，香港中華煤氣有限公司開展了一項為期兩年的計劃，更換所有鑄鐵氣體喉管，本署則提供協助，確保更換計劃能如期完成。

Replacement of Cast-iron Gas Pipes

With a view to enhancing public safety, the Hong Kong and China Gas Company Limited has embarked on a two-year plan to replace all cast-iron gas pipes and EMSD has been providing assistance to ensure timely completion of the replacement programme.



“只要設身處地，為客戶著想，
定能提供更好的服務。
Simply put yourself in
their shoes when serving
them.”

申訴專員嘉許獎得主
機電工程署陳永枝
Chan Wing-chi, EMSD,
Awardee of the Ombudsman Award



陳先生暢談他的服務心得。他在協助住宅樓宇電力裝置的檢查、測試和發出證書的工作上，表現盡心盡力的工作態度，贏得兩個業主立案法團的讚賞。

Chan talks about his one-liner philosophy on service. He was commended by two owners' corporations for his unreserved help in getting the electrical installations of their buildings inspected, tested, and certified.

電力安全

加快執行電力裝置的定期測試規定

定期巡查住宅樓宇的電力裝置，是我們在近年優先處理的工作。根據《電力條例》的規定，凡允許負載量超過100安培的電力裝置，均須最少每5年進行一次檢查、測試及領取證書，以確保公眾安全。

至於沒有聘用物業管理公司或成立業主立案法團的樓宇，我們便要進行多次家訪，向業主講解有關技術和法定要求，並說服他們遵守法定的安全規定。

在迫不得已的情況下，我們會對仍未進行安全檢查和測試的業主採取法律行動，不過，這些業主只佔少數。事實證明，這是加快有關工作的有效方法。每當有業主因違反5年測試規定而被檢控時，附近樓宇的業主便會立即遵行有關規定，為電力裝置進行測試和領取證書。截至撰寫本文為止，我們於2003年已檢控了58名業主。

更新《電力（線路）規例工作守則》

經過21個月時間廣泛諮詢電業承辦商、電業工程人員和業界人士的意見，並按照最新的技術和本地營運要求，我們完成有關《電力（線路）規例工作守則》的修訂工作。

新守則向業界提供進行電力線路工程的詳細指引，包括新裝置、加裝和改裝等工程在內。對業界來說，工作守則是一份實用而全面的參考文件。

監察電力供應的安全和可靠程度

香港的供電系統既安全又穩定，其供電可靠程度超過99.99%，是世界上電力供應最穩定的城市之一。我們出現大停電的機會極微，事實上，本港大型建筑物和政府設施均有緊急電力供應，為重要設備提供支援，而兩間電力公司又有應變計劃，應付大停電事故。作為規管電力業的機構，機電工程署一直監察兩間電力公司供電的安全及可靠程度，以迎合社會各階層的電力需要。

就機電產品的安全與內地部門簽訂合作安排

機電工程署與中華人民共和國國家質量監督檢驗檢疫總局簽訂合作安排，以求加強產品及設備的安全，包括住宅式電氣和氣體用具、升降機及自動梯等。有關安排不單加強雙方的合作關係，亦加快了問題產品來源的調查工作。

在非典型肺炎爆發期間，我們發現兩款聲稱能殺死家中細菌的紫外光燈根本不適合家居使用。本署與消費者委員會及衛生署合作，要求本地分銷商回收產品，並安排退款給顧客。由於我們已與內地的規管當局簽訂合作安排，可以迅速阻止有問題的產品由生產地進口，令情況不致惡化。

♥ 定期巡查住宅樓宇的電力裝置是我們的重點工作。
Residential buildings are our priority in enforcing the periodic inspection of electrical installations.

♥ 我們監管兩家電力公司，確保本港電力供應安全可靠。
We monitor the two power companies to ensure a safe and reliable supply of electricity.

♥ 機電工程署與內地當局簽訂合作安排，加強機電安全。
EMSD enters into a cooperation arrangement with mainland authorities on E&M safety.



Electrical Safety

Expediting the Periodic Testing of Electrical Installations

Residential buildings remained our priority in enforcing the periodic inspection of electrical installations in recent years. As stipulated in the Electricity Ordinance, electrical installations with an approved loading exceeding 100 amperes should be inspected, tested and certified at least once every five years to protect public safety.

For buildings without a property management company or an owners' corporation, it could take many home visits to brief on the technical and statutory requirements, and to persuade the owners to comply with the statutory safety requirements.

Taking legal action is our last resort but has proved to be an effective means to speed up the process for the very small percentage of property owners, who have still not carried out the safety inspection and testing. Whenever the owners of a building receive a summons for failing to comply with the five-year testing requirements, owners in neighbouring buildings would immediately take compliance action to have their electrical installations tested and certified. At the time of writing, 58 prosecution cases had been taken against building owners in 2003.

Code of Practice for the Electricity (Wiring) Regulations Updated

After 21 months of consultation with electrical contractors, workers and stakeholders in the trade and having taken into consideration recent changes in technical practices and local operating requirements, the Code of Practice for the Electricity (Wiring) Regulations was updated and fine-tuned.

It serves to provide detailed guidance and practical tips for the trade in conducting electricity wiring works such as new installations, additions and alterations. The Code provides a practical and comprehensive reference for the trade.

Monitoring a Safe and Reliable Supply of Electricity

Hong Kong has in place a reasonably secure and robust electricity supply system that achieves a high reliability of electricity supply exceeding 99.99 per cent, which is among the highest in the world. The probability of occurrence of major power failure is extremely low. In fact, major buildings and government facilities in Hong Kong have emergency supply to back up essential equipment, and the two power companies also have contingency plans to deal with major power outages. EMSD, being a regulator of the electricity supply industry, monitors the safety and reliability aspects of the two power companies' supply to meet the electricity demand of each and every sector of the community.

“機電工程署多年來一直竭盡所能，向市民和電氣業推廣安全標準及規定。
EMSD has certainly gone a long way in educating the public and the electrical trade about safety standards and requirements.”

港九電器工程電業器材職工會冼啟明
K. M. Sin, HK & Kowloon Electrical Engineering
& Appliances Trade Workers Union



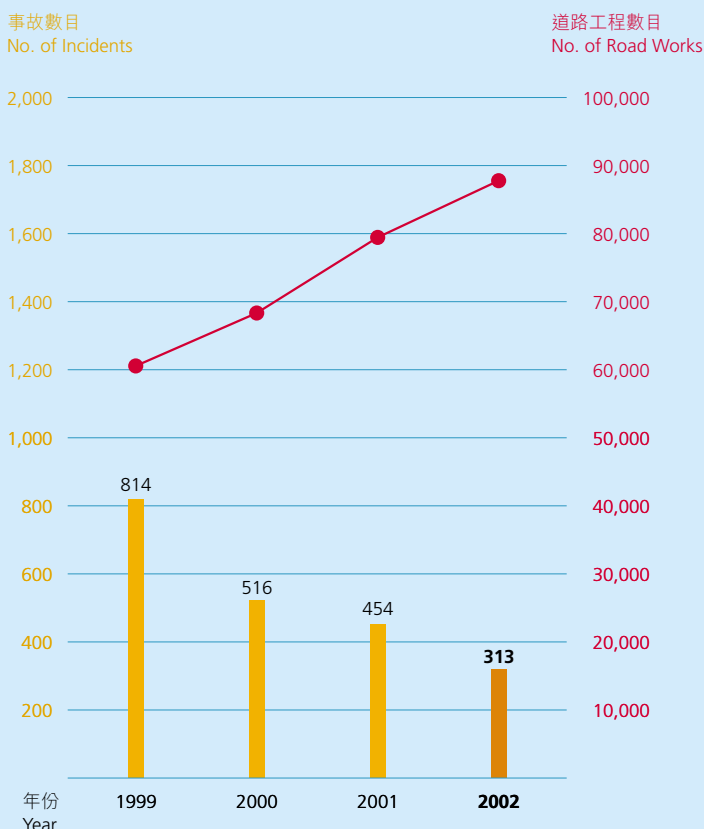
該會對機電工程署為業界舉行的研討會及以公眾安全為題的社區活動，甚為欣賞。
The union is especially impressed with the trade seminars and the community programmes on public safety.

供電電纜遭第三者損毀事故數目下降

雖然過去幾年道路工程的數目不斷增加，但由於制定《供電電纜（保護）規例》，對供電電纜附近的工程加以規管，致令危及公眾安全或造成停電情況的第三者損毀事故不斷減少。

Third-Party Damage Incidents on Electricity Supply Lines in Decline

Despite the rising number of road works in the past few years, the number of third-party damage incidents and prejudicing safety or continuity of electricity supply has been declining, following the introduction of "Electricity Supply Lines (Protection) Regulation" governing works carried out in the vicinity of electricity supply lines.



與業界加強溝通

機電工程署連續三年與商會合作，舉辦以電業承辦商及電業工程人員為對象的大型研討會。研討會旨在宣傳新規例及工作守則，讓業內人士能溫故知新，並藉此交流經驗和分享知識。2003年的研討會於11月舉行，逾900名電業工程人員和承辦商出席。

此外，《電力快訊》第三期已於2003年10月出版，並派發給本港67,000名註冊電業工程人員及承辦商。《電力快訊》內有專題文章和最新資料，深受業內人士歡迎，是我們和業界溝通的好工具。

巡查與測試

實地視察對確保固定電力裝置的安全至為重要，在2002年，我們共進行了超過9,000次實地視察，並為6,630張測試證明書加簽。

Inspection and Testing

Site inspections are key to ensuring the safety of fixed electrical installations. In 2002, more than 9,000 inspections were conducted and 6,630 testing certificates were endorsed.



♥《電力快訊》是我們與電業界的溝通工具之一。
Electricity News is but one of the communications tools with the electrical trade.

♥舉辦大型研討會讓業內人士溫故知新、交流經驗。
Large-scale seminars are organised for the trade to refresh knowledge and share experiences.



Cooperation Arrangement with Mainland Authorities on E&M Safety

EMSD has entered into a cooperation arrangement with the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, in a bid to strengthen product and equipment safety, covering domestic electrical and gas appliances, lifts and escalators. The arrangement not only fosters a closer working relationship, but also speeds up the investigation of the source of any questionable products.

In the midst of the SARS outbreak, two models of UV-C lamps claiming to kill germs in homes were found not suitable for domestic purpose. EMSD, in collaboration with the Consumer Council and Department of Health, requested the local distributors to recall the products and arrange refunds for customers. With the cooperation arrangement in place, it was made possible to contain the situation by stopping the importation of the problematic products at source.

Strengthening Trade Communication

For the third consecutive year EMSD joined forces with trade associations in organising large-scale seminars for the electrical trade, catering for electrical contractors and workers. The seminars not only provided a refresher in the promotion of new regulations and the code of practice, but also allowed people in the trade to share experiences and exchange knowledge. The seminar in November 2003 was well attended by more than 900 trade workers and contractors.

On another note, the third issue of *Electricity News* was published in October 2003 and distributed to the 67,000 registered electrical workers and contractors in Hong Kong. Featuring topical issues as well as knowledge updates, the newsletter has been well received and has proved to be a popular communications tool within the trade.

住宅電力事故數目下降

過去數年，住宅電力事故的數目大減。

Domestic Electrical Incidents in Decline

The number of domestic electrical incidents has dropped significantly in the past few years.

事故數目 No. of incidents / 年份 Year	2000	2001	2002	(至8月) 2003 (up to August)
家居 Domestic	82	64	65	38
總計 All	145	124	134	73

“本會和機電工程署都將公眾安全放在首位。
We both put public safety at the top of our agenda.”

電梯業協會馮北海
B. H. Fung, Lift and Escalator Contractors Association



電梯業協會與機電工程署定期舉行會議，討論與業界和市民息息相關的技術和安全問題。雙方最近更合作制定升降機及自動梯的故障呈報制度。

LECA and EMSD hold regular meetings to discuss both technical and safety issues concerning the industry and the public. Recently, they jointly developed a system for submitting fault-call reports in lifts and escalators.

機械安全

修訂架空纜車規例

我們已修訂規管本港架空纜車操作及維修的規例，新規例於2003年8月獲得通過。有關修訂旨在將規例的適用範圍擴大至不同種類的架空纜車，並提高一般安全要求。

完成東涌纜車的條例草擬工作

作為技術及安全事宜顧問，機電工程署協助政府草擬新的東涌纜車條例。經過多月來的工作，終於取得成果，條例的草擬工作已完成，並由立法會於2003年5月通過。有關

計劃由地下鐵路有限公司負責管理，我們會繼續努力，積極審閱有關計劃的設計。

出版機動遊戲機實務守則

我們在徵詢專業團體、主題公園營運者和業內人士的意見後，於2003年9月出版機動遊戲機實務守則，並在憲報刊登。該守則為業界提供實用的參考資料，並列明在設計、操作及測試機動遊戲機方面的安全規定。

向市民和業界宣揚安全訊息

我們舉辦標貼設計比賽，向市民宣傳升降機及自動梯安全。比賽分為小學、中學及公開組，市民反應熱烈，共接獲超過500份參賽作品。我們已向得獎者頒發獎項。

巡查與測試

為保障公眾安全，機電工程署負責監察全港逾43,000部升降機及5,700部自動梯、機動遊戲機、建築工地升降機及塔式工作平台的安裝、操作和維修。在2002年，我們共進行了超過7,000次巡查，並處理了逾53,000份定期測試證明書。

至於本港升降機及自動梯工程承建商及服務提供者的註冊方面，現時已有51間升降機工程承建商獲得本署註冊，當中38間亦同時是註冊自動梯工程承建商。

Inspection and Testing

In ensuring public safety, EMSD monitors the installation, operation and maintenance of more than 43,000 lifts and 5,700 escalators, as well as amusement rides, builders' lifts and tower working platforms throughout Hong Kong. In 2002, we conducted more than 7,000 inspections, and processed more than 53,000 periodic test certificates.

There are currently 51 lift contractors registered with EMSD, 38 of which are also registered as contractors for escalators.

至於與業界溝通方面，本署與職業安全及健康局、職業訓練局、勞工處、電梯業協會、註冊電梯營造商聯會、香港電梯業總工會合作，舉辦第一屆安全問答比賽，約有80名升降機及自動梯工人參加，是我們鼓勵業內人士溫故知新，提升專業技能和知識的其中一項活動。除了提倡不斷學習外，安全問答比賽的另一個目的，是要加強升降機及自動梯業界的安全文化。

機電工程署與政府各部門及市民通力合作，提供機電及氣體應用的規管架構，以保障公眾安全。規管服務單位由經驗豐富的专业工程師及督察組成，目標是確保公眾安全，並維持高安全水平。我們負責執行有關安全使用電力、氣體、升降機及自動梯、機動遊戲機、架空纜車及公共交通工具的法例和編印工作守則及指引。我們亦就一系列機電安全的問題，擔任政府的技術顧問，並就有關的法例提供意見。這些工作由電力法例部、一般法例部和氣體標準事務處負責。

迪士尼主題公園

迪士尼主題公園計劃進行得如火如荼，參與此計劃的機電工程署隊伍現正忙於檢視各種機動遊戲機的設計，並監督竹篙灣的基建工程。

Disney Theme Park

With the Disney Theme Park Project proceeding at full tilt, the EMSD team dedicated to the project has been busy reviewing the design of the various amusement rides and monitoring the infrastructure work at Penny's Bay.



舊升降機

我們成立特別專責小組，抽樣檢查全港的舊升降機，確保其操作及維修達到安全標準。

Aged Lifts

A special taskforce has been formed to conduct random checks on aged lifts throughout the territory to ensure safety standards are upheld in their operation and maintenance.

Mechanical Safety

Aerial Ropeways Regulation Updated

The revision and updating of the regulation governing the operation and maintenance of aerial ropeways in Hong Kong has been completed and the amendment regulation enacted in August 2003. Emphasis has been placed on expanding the application of the regulation to different types of aerial ropeways and on enhancing the general safety requirements.

Tung Chung Cable Car Ordinance Completed

As an advisor on technical and safety issues, EMSD assisted in the drafting of the new Tung Chung Cable Car Ordinance. Months of work has finally come to fruition with the ordinance completed and passed by the Legislative Council in May 2003. We will continue to play an active role in reviewing the design of the project, which is managed by the MTR Corporation.

Code of Practice for Amusement Rides Published

After consultation with professional institution, theme park operators and practitioners in the trade, the Code of Practice for Amusement Rides was published and gazetted in September 2003. The code provides a practical reference for the trade and sets out the safety requirements on design, operation and testing of amusement rides.

Community and Trade Safety Promotion

A sticker design competition was organised in 2003 to promote lift and escalator safety to the community and was met with

enthusiastic response. More than 500 entries were received and awards were given to winners in the three categories: primary, secondary and open.

On the trade front, some 80 lift and escalator workers took part in the first ever safety quiz organised by EMSD in collaboration with the Occupational Safety and Health Council, Vocational Training Council, Labour Department, the Lift and Escalator Contractors Association, the Registered Elevator and Escalator Contractors Association Ltd. and Hong Kong General Union of Lift and Escalator Employees. It represented part of our effort to encourage workers to refresh and sharpen their professional skills and knowledge. In addition to promoting continuous learning, the Workers Safety Quiz also aimed to foster a safety culture in the lift and escalator industry.

At EMSD, we work closely with other government agencies and the community to provide a regulatory framework that will ensure public safety in electrical, mechanical and gas applications. With an experienced team of professional engineers and inspectors, our aim is to achieve and maintain a high standard of public safety. We administer safety legislation and issue codes of practice and guidelines on the safe use of electricity, gas, and lifts and escalators as well as in such diverse areas as amusement rides, aerial ropeways and public transportation. We also act as a technical advisor to the government on a range of safety issues and provide recommendations on the legislation necessary to ensure public safety. Our work in these areas is carried out by the Electricity Legislation Division, General Legislation Division and Gas Standards Office.

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提高公眾安全及節能意識 Raising Public Awareness



「我們藉着深入接觸社會各階層，擴大宣傳和教育的層面。」

"Reaching out to the different strata of the community underscores our strategy of broadening our reach."

提高公眾安全及節能意識

- 經濟發展及勞工局常任秘書長（經濟發展）李淑儀接受署長頒發紀念品。
Permanent Secretary for Economic Development and Labour (Economic Development) Ms Sandra Lee receives a souvenir from our Director.



機電安全香港通2003

機電工程署已連續3年與業界主要機構合辦「機電安全香港通」運動，這項運動也是最大型的同類公眾教育活動之一。

2003年的運動透過電視、電台和報章，以創新的手法向市民宣揚機電安全及節能訊息，並且鼓勵市民把有關知識應用到日常生活中。

我們製作了一系列宣傳短片，帶出有關電力、氣體、升降機及自動梯安全以及能源效益的重要訊息，並安排在兩個電視網絡播放。

此外，我們又把家傳戶曉的童話故事改編成電台宣傳片故事，以生動有趣的手法帶出這項運動的主題及安全訊息。

在報章宣傳方面，我們採用了一個嶄新方式，從消費者的角度設計多款報章廣告，以家長和子女為宣傳對象，灌輸安全知識。

我們在2003年11月於九龍公園舉行一個戶外嘉年華會，吸引近萬名市民參加。是次嘉年華會有3間學校與18個機構參加，分別設立遊戲攤位，就機電安全進行宣傳。

為配合這項運動，我們舉辦了標貼設計比賽和標語創作比賽，參賽作品超過4,500件。得獎者已在嘉年華會中獲頒獎項。此外，我們亦派遣義工隊伍，為100個長者住戶進行電氣安全檢查。

參與這項運動的主要機構和行業商會來自公共事業、公共交通、屋宇物業管理和機電界，包括香港加德士有限公司、中國檢驗有限公司、華潤石油氣有限公司、中華電力有限公司、埃克森美孚香港有限公司、消防處、香港中華煤氣有限公司、香港物業管理公司協會有限公司、香港電燈有限公司、香港房屋委員會、香港國際機場、港九電器商聯會、香港液體氣（集團）有限公司、九廣鐵路公司、電梯業協會、地鐵公司和香港蜆殼有限公司。

Raising Public Awareness

♥ 我們以消費者角度，設計了一系列以家長和子女為宣傳對象的報章廣告，宣傳安全知識。
A consumer-friendly series of newspaper advertisements targeted at parents and children.

♥ 機電安全嘉年華吸引近萬名市民參加。
Nearly 10,000 people are attracted to the E&M Safety Carnival.



E&M Safety Campaign 2003

It was the third year in a row EMSD teamed up with key industry players in the E&M Safety Campaign, one of the largest public education programmes of its kind.

With the aim of promoting public awareness of E&M safety as well as energy efficiency and, more importantly, encouraging public adoption in daily life, the 2003 campaign featured an innovative mix of media publicity in television, radio and print.

A series of drama episodes were produced to underline key messages in the four areas, namely, electrical, gas, lift and escalator safety, and energy efficiency, and were broadcast on cable and terrestrial television networks.

Drawing upon the theme of the campaign for 2003, we adopted a different approach to radio publicity. All-time favourite fairy tales were adapted to deliver safety messages in a witty fashion.

A new, consumer-oriented format was also conceived for print publicity as selected newspapers developed different types of advertorial, each bringing out key messages targeted at parents and children.

The campaign also featured an outdoor carnival in Kowloon Park in November 2003, attracting nearly 10,000 people for a

day of fun. Three schools joined with the 18 collaborating organisations in setting up game booths and promoting E&M safety messages.

In conjunction with the campaign were a sticker design competition and a slogan design competition, which together drew more than 4,500 entries. Winners were presented with prizes at the carnival. In addition, voluntary service was provided to check electrical safety of 100 households of the elderly.

Partners joining in this initiative were leading organisations and trade associations from the utilities, public transport, housing and estate management sectors, and the electrical and mechanical field. They included: Caltex Oil Hong Kong Limited, China Inspection Company Limited, China Resources Gas Company Limited, CLP Power Hong Kong Limited, ExxonMobil Hong Kong Limited, Fire Services Department, the Hong Kong and China Gas Company Limited, the Hong Kong Association of Property Management Companies Limited, the Hongkong Electric Co., Ltd., Hong Kong Housing Authority, Hong Kong International Airport, Hong Kong & Kowloon Electrical Appliances Merchants Association, Hong Kong L. P. Gas (Holdings) Limited, the Kowloon-Canton Railway Corporation, the Lift and Escalator Contractors Association, the MTR Corporation and Shell Hong Kong Limited.

- 我們透過遊戲及故事向市民灌輸安全知識。
Members of the public get to know our safety messages through games and stories.



青少年宣傳活動

我們於2003年邀請家傳戶曉的著名卡通人物「Snoopy¹ / 史諾比」擔任安全大使，宣揚電氣安全訊息。我們製作了印有「Snoopy / 史諾比」的海報、單張、標貼、廣告品、宣傳印刷品、日曆卡、橡膠匙扣、錢箱等物品及其他印刷品，以進行宣傳，藉此提醒青少年和各階層人士注意電氣安全，並鼓勵他們在日常生活中養成良好習慣。

安全使用及妥善保養電熱水爐至為重要，我們印製了約260萬份宣傳印刷品，透過兩間電力公司派發給所有住戶，為市民提供使用電熱水爐的實用意見和指引。

我們亦舉辦了一個家居電氣安全問答遊戲，在報章刊載一天，共收到超過700份參賽表格。

學校外展活動

在2003年，本署進行連串學校外展教育活動，包括為小學編寫的話劇表演，為幼稚園學童舉辦的互動式遊戲活動，以及學校講座，藉以傳達各種安全及節能訊息。

我們曾到40間小學演出話劇，向10,000名學生進行宣傳。學生和老師對這項活動均反應熱烈。

在幼稚園方面，我們在這個學年委派了經驗豐富的幼稚園導師擔任電氣安全幼稚園大使。他們共走訪175間幼稚園，

向超過30,000名學生宣傳電氣安全訊息。我們又委派兩名大使透過講故事、玩遊戲及示範表演，以生動的手法向幼稚園兒童講解如何安全使用機動遊戲機、升降機及自動梯。

本署亦為各中學舉辦外展活動。我們曾走訪約30間學校，以講座形式向10,000名學生宣揚能源效益訊息。

香港能源效益及節能獎

環境運輸及工務局發出指令，促請各決策局和部門由2003年至2007年節省共6%的電力。為協助各決策局和部門達到這個目標，機電工程署於2003年4月至6月期間就節能措施舉行4場簡介會。

機電工程署並在2003年8月推出香港能源效益及節能比賽，這項比賽是為政府各決策局和部門而設，為期一年，為同類比賽的第一個。

舉辦這項比賽是為了配合政府推廣能源效益和節約能源的政策，亦顯示政府身體力行，致力節約能源。這項比賽不單鼓勵政府各決策局和部門節省能源，亦表揚採用良好方法，在節能方面有實際成績的決策局和部門。

¹ 註：機電工程署獲授權使用有關卡通人物。

♥ 我們的學校外展活動深入接觸中小學以及幼稚園學童。
Our school outreach programme reaches out to students from kindergartens, primary and secondary schools.



Reaching out to the Young

EMSD has leveraged the popular and world-famous branded celebrity character Snoopy¹ as safety ambassador to help promote electrical safety in 2003. A promotion and publicity programme in collaboration with this global character, featuring a variety of channels and tools - posters, leaflets, stickers, advertising, mailers, calendar cards, rubber key pads, coin banks, and other printed materials - were developed to maximise the impact of the programme. The character not only helped draw attention to the issues from the young and people from all walks of life, but also heightened their awareness of good safety practices in daily life.

The safe use and proper maintenance of electric water heaters was a key issue and some 2.6 million mailers were printed and distributed to all households through the two power companies, highlighting practical tips and dos and don'ts on the subject matter.

A newspaper quiz on household electrical safety was also organised and more than 700 entries were received for this single-day event.

School Outreach Programme

The EMSD school outreach education programme in 2003 featured a drama programme highlighting all the various safety and energy efficiency messages tailor-made for primary schools, a kindergarten programme with interactive games targeting pre-schoolers, and school talks.

The primary school drama performances were taken to 40 primary schools during 2003 reaching 10,000 students, and met with enthusiastic response from both students and teachers.

For kindergartens, experienced kindergarten instructors were appointed as electrical safety ambassadors to visit 175 kindergartens, reaching more than 30,000 pupils during the school year. In addition, two ambassadors were appointed to deliver messages on the safe use of amusement rides, lifts and escalators to kindergarten children in a lively fashion through story telling, games and demonstrations.

The outreach programme also covered secondary schools with a series of energy efficiency talks, reaching 10,000 students in some 30 schools.

Hong Kong Awards for Energy Efficiency and Conservation

In response to a mandate from the Environment, Transport and Works Bureau to save a cumulative six per cent of electricity from 2003 to 2007, EMSD organised four briefing sessions on energy saving measures from April to June 2003 to assist other government bureaux and departments to achieve this target.

Then in August 2003, EMSD launched a one-year competition among government bureaux and departments to save energy, the first of its kind in Hong Kong.

In tandem with the government's initiative to promote energy efficiency and conserve energy, the award scheme represents a concerted effort to advocate the government's lead in the drive for energy saving. It aims to encourage all government bureaux and departments to practise energy conservation and efficiency, and to recognise those who demonstrate quantifiable energy savings and best practices.

¹ Note : EMSD has obtained authorisation to use the cartoon character.

♥ 這本小冊子提供簡單實用的節能方法。
This pamphlet provides handy and practical tips on energy saving.

♥ 新推出的互動網站「能源資訊園地」以中學生為主要對象。
Our newly created website "EnergyLand" is targeted at secondary students.

♥ 簡介會為政府政策局及部門推介不同的節能措施。
Briefings introduce various energy saving measures for government bureaux and departments.



推出互動網站「能源資訊園地」

我們推出了一個以中學生為主要對象的互動教育網站「能源資訊園地」，旨在提高他們的能源效益意識及提供有關資訊。除介紹各種節能概念和業界的最新技術外，亦透過遊戲和其他簡單的方式，提供節能意見。

論壇、研討會及展覽

本署在2003年1月舉辦了能源效益及節能論壇，邀請了本港和國際知名的專家擔任講者。這次論壇吸引了逾200名本港及海外人士參加。

我們為業界和社區團體舉辦連串有關機電安全及能源效益的研討會。此外，我們在一些大型商場及公眾遊樂場舉行巡迴展覽，教導市民如何安全使用家庭電器及氣體用具，以及正確使用升降機和自動梯的方法。

機電工程署其中一項主要任務是保障市民免受電力、機械及氣體意外或事故的傷害。我們負責執行安全法例，並且推行各種安全標準和守則。此外，我們亦積極推廣能源效益。公眾教育是我們工作的重要環節，我們致力提高公眾對有關問題的認識，並鼓勵市民遵從安全守則。我們透過多種渠道將安全訊息帶給公眾，包括出版刊物、進行推廣及宣傳運動、派發海報及郵件，舉行嘉年華會、巡迴展覽、遊戲、比賽及問答遊戲，以及舉辦安全講座和研討會等。

Interactive Website "EnergyLand" Launched

"EnergyLand", an interactive and educational website targeted at secondary students, was launched in early 2003 to raise public awareness and provide information on energy efficiency. While introducing the various concepts and the latest technologies in the industry, it also features a lot of practical energy saving tips through games and other user-friendly formats.

Forum, Seminars and Exhibitions

In January 2003, we organised a forum on energy efficiency and conservation, with over 200 local and overseas participants. Renowned local and international experts were invited to speak at the forum.

A series of safety and energy seminars were organised for trade and community organisations. Roving exhibitions were also held at popular shopping malls and public playgrounds to promote the safe use of household electrical and gas appliances, and the proper way to use lifts and escalators.

A key role of EMSD is keeping the public safe from electrical, mechanical and gas accidents or incidents. We implement and enforce safety legislation and have introduced a wide range of safety standards and practices. We are also actively involved in promoting energy efficiency. Public education is an important aspect of our activities as we work to foster awareness of the issues involved and to reinforce safety practices within the community. We take this message to the community through a number of different channels, including publications, promotional and advertising campaigns, posters and mail-outs, carnivals and road shows, games, contests and quizzes, and safety talks and seminars.



節能樂安居 **Save in Safe Homes**

Photo image of Hong Kong on p.1 courtesy of Hong Kong Tourism Board

Photography : Terry Chen

Design : Phoenix Communications Limited



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This report is printed on environmentally friendly paper
manufactured from totally chlorine-free pulp.

政府物流服務署印製
Printed by the Government Logistics Department