

# 規管服務業務概覽

## REGULATORY SERVICES ACHIEVEMENTS OVERVIEW



### 抱負 VISION

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。

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.



### 使命 MISSION

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。

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.



### 信念 VALUES

- ▶ 專業才能 EXPERTISE
- ▶ 誠信 INTEGRITY
- ▶ 可靠 RELIABILITY
- ▶ 承擔 COMMITMENT





# 高層管理人員

## Senior Management



**彭耀雄太平紳士**  
**Mr Pang Yiu-hung, JP**

助理署長/氣體及一般法例  
Assistant Director/Gas and General Legislation

**陳秋發先生**  
**Mr Chan Chau-fat**

助理署長/鐵路  
Assistant Director/Railways

**薛永恒太平紳士**  
**Mr Sit Wing-hang, Alfred, JP**

機電工程署署長  
Director of Electrical and Mechanical Services

**賴漢忠太平紳士**  
**Mr Lai Hon-chung, Harry, JP**

副署長/規管服務  
Deputy Director/Regulatory Services

**羅肇嫻女士**  
**Ms Lo Siu-han, Cynthia**

主任秘書  
Departmental Secretary

**羅皓宜女士**  
**Ms Law Ho-yee, Sharon**

部門會計師  
Departmental Accountant

**潘國英先生**  
**Mr Poon Kwok-ying, Raymond**

助理署長/電力及能源效益  
Assistant Director/Electricity and Energy Efficiency

\* 陳帆太平紳士出任機電工程署署長至2017年6月30日  
Mr Chan Fan, Frank, JP was Director of Electrical and Mechanical Services up to 30 June 2017  
\* 梁建民博士、太平紳士出任助理署長/鐵路至2017年5月26日  
Dr Leung Kin-man, JP was Assistant Director/Railways up to 26 May 2017

\* 薛永恒太平紳士出任副署長/規管服務至2017年6月30日  
Mr Sit Wing-hang, Alfred, JP was Deputy Director/Regulatory Services up to 30 June 2017  
\* 何家儀女士出任部門會計師至2017年11月7日  
Ms Ho Ka-yee, Camilla was Departmental Accountant up to 7 November 2017  
\* 賴漢忠太平紳士出任助理署長/電力及能源效益至2017年11月14日  
Mr Lai Hon-chung, Harry, JP was Assistant Director/Electricity and Energy Efficiency up to 14 November 2017



## 服務回顧 Operations Review



賴漢忠太平紳士  
Mr Lai Hon-chung, Harry, JP

機電工程署副署長/  
規管服務  
Deputy Director/  
Regulatory Services, EMSD

規管服務在2017/18年度持續發展，而我們在擔當「促成者」和「推廣者」的角色方面，也有新的挑戰。

The year 2017/18 was marked by continuous development of Regulatory Services and new ventures in our role as a facilitator and promoter.

### 國際視野

年內主要成就之一，是成功主辦了兩個大型國際會議，再次彰顯了規管服務的國際視野。首先是2017年10月於香港舉辦國際鐵路安全議會年度會議，這個國際性高層會議為來自全球的運輸部長、鐵路規管者、政策制訂者、鐵路營運商、學者、專家及鐵路行業商界領袖提供交流平台，商討有關鐵路發展及安全議題。

今次會議由機電署與香港鐵路有限公司(港鐵公司)合辦，吸引了來自40個國家/地區的300多位代表出席，當中包括國家鐵路局和中國鐵路總公司的領導，兩者皆首次參與國際鐵路安全議會的年度會議。是次會議更讓海外與會者有機會透過與國內官員面談和考察廣州與香港的高鐵設施，親身體驗中國在發展高鐵方面的成就。對於能藉此機會增進與會者對內地鐵路建設的認識，我們感到非常榮幸。

年內，我們也為2018年5月在香港舉行的亞太經濟合作組織(亞太經合組織)能源工作組第55次會議進行籌備工作，並藉此盛事再次展現香港在能源效益和節能方面的領導地位。今次會議由環境局與機電署合辦，已是第三次在香港舉行，邀得亞太經合組織19個經濟體中約180多位代表參與。我們更在會議期間，特別舉辦了「年輕人與亞太經合組織專家交流會」工作坊，讓50多位年輕人與海外及本地專家探討區內能源效益與節能的前景。

舉辦這類大型國際會議，既符合我們作為規管者和推廣者的角色，也有其他裨益，例如籌備過程能提高同事的國際視野和辦事能力，有助提升我們的規管服務水平。國際會議也讓本地業界親身接觸內地及海外的政策制訂者、專家和業界領袖，拓闊眼界。同時，引入國際元素也配合我們的策略方向之一，即「建立一支有創意、高效、專業、用心服務社羣和具國際視野的團隊」。我們會繼續朝這方向努力。

### GLOBAL VISION

A major achievement was our hosting of two successful international conferences which once again highlighted our global vision. The first one was the 27th annual conference of the International Railway Safety Council (IRSC) held in Hong Kong in October 2017, a high-level international forum for transport ministers, railway regulators, policy makers, railway operators, academics, experts and business leaders from the railway industry around the world to discuss railway development and safety matters.

Jointly organised by EMSD and the Mass Transit Railway Corporation (MTRC), the event attracted over 300 delegates from 40 countries/regions, including the heads of National Railway Administration (NRA) of China and the China Railway (CR), both participating in the IRSC annual conference for the first time. The occasion was an excellent opportunity for overseas delegates to experience first-hand China's achievements in high speed rail development via face-to-face discussions and visits to high speed rail facilities both in Guangzhou and Hong Kong. We are delighted to have played a role in raising participants' awareness of railway construction in the Mainland.

By the same token, our preparatory work in 2017/18 for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group (EWG) and associated meetings, which took place in May 2018 in Hong Kong, marked another initiative by EMSD to position Hong Kong as a leading city in energy efficiency and conservation. Jointly organised by the Environment Bureau and EMSD, this was the third EWG meeting hosted in Hong Kong, attracting the participation of over 180 delegates from 19 APEC economies, with a special "Youth Dialogue with APEC Experts" workshop organised for more than 50 young participants to explore with overseas and local experts the future of energy efficiency and conservation in the region.

Hosting major international conferences is not only consistent with our role as a regulator and promoter, but also brings about other benefits. The process builds our team's global vision and capabilities which will in turn raise the quality of our regulatory services. The conferences also put the local trades in direct contact with Mainland and overseas policy makers, experts and business leaders, allowing trade members to broaden their horizons. Bringing an international dimension to our work also aligns with one of our strategic directions, which is to build an innovative, efficient and professional team with global vision to serve the community with heart. We shall continue to strive towards this direction.





## 服務回顧 Operations Review

### 執行法例

執行法例是規管服務的核心工作，我們必須強調，對任何不遵守法規的人士或機構，我們必會毫不猶疑採取執法行動。例如2017年3月導致18名乘客受傷的朗豪坊自動梯事故，我們經深入調查後，已對有關人士採取檢控行動及紀律處分，包括負責該自動梯維修保養的註冊承辦商、註冊工程師及註冊工人。

機電資產老化將是未來一大挑戰，從年內發生的數宗舊式升降機事故便可見一斑。有見及此，我們已加緊巡查，並提醒業界必須嚴格遵守相關的實務守則及最佳的行業做法。

除了進行日常的規管工作外，我們現在更主動與市民及業界同行協作，以促進社會安全和提升市民的生活質素，例如推動市民加快舊式升降機的優化工作，以及尋求可行的創新科技，藉以提升整體的機電安全水平。這方面的工作，使我們在規管者的身分之外，額外增添了促成者的角色。我們相信，只要能夠令市民大眾更安全安心，多走這一步是非常值得的。

2017/18年度是鐵路團隊的豐收年。我們與另外五個政府部門攜手合作，以「為新鐵路把關」這參賽項目贏得2017年公務員優質服務獎勵計劃的「部門合作獎」金獎。這獎項表揚這支跨部門團隊過往幾年以專業服務和合作精神，順利開通了三條新鐵路綫的出色表現。

廣州 — 深圳 — 香港高速鐵路(香港段)計劃於2018年9月開通，規管服務的鐵路團隊於年內就高鐵香港段的機電設施和系統，進行了大量安全測試及巡查。由於新綫涉及一連串關乎過境安排的雙互認可及合作，我們一直與國家鐵路局及中國鐵路總公司保持緊密聯繫，以確定具體落實細節。我們也為本港相關的政府部門安排了為期一星期的培訓，讓同事熟習高鐵的管理工作。

內地鐵路當局有豐富的高鐵管理經驗，香港可借鑒學習，因此我們與有關機構的聯繫十分重要。當廣深港高鐵香港段全面投入運作後，我們預計與國家鐵路局及中國鐵路總公司會保持緊密的工作聯繫。

### LEGISLATION ENFORCEMENT

Legislation enforcement is the core of Regulatory Services. It must be emphasised that we will not hesitate to take enforcement action against any parties that fail to comply with laws and regulations. For example, subsequent to our thorough investigations into the Langham Place escalator incident which took place in March 2017 and injured 18 passengers, both prosecution actions and disciplinary proceedings were taken against the concerned parties, including the Registered Contractor, the Registered Engineer and the Registered Worker responsible for the maintenance of the escalator concerned.

Ageing E&M assets will be a challenge in the years ahead, as highlighted by a number of incidents that occurred on aged lifts during the year. In this regard, we have stepped up inspections and reminded the trade to adhere strictly to the relevant codes of practice and best trade practices.

In addition to our ongoing regulatory work, we are also proactively connecting and collaborating with the general public and the trades to enhance the safety and quality of life of the community, such as facilitating the public to expedite the modernisation of aged lifts and exploring feasible innovative technology to enhance the overall E&M safety level. This would take us one step further to become a facilitator on top of our role as a regulator. We believe that this extra step will be well worth taking if the public could, as a result, enjoy a higher level of safety and peace of mind.

2017/18 was a fruitful year for the railways team. Our joint submission with five other government departments, titled "Safeguard our New Railway Lines", has won the Gold Prize in the Partnership Award under the Civil Service Outstanding Service Award Scheme 2017, recognising the joint team's professional services and collaborative efforts in the past few years which enabled the safe and smooth opening of three new railway lines.

During the year, the railways team also conducted numerous safety tests and inspections for the E&M installations and systems of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL), which is scheduled to open in September 2018. In view of a series of reciprocal recognition and collaboration efforts related to cross-border arrangements, we have been in close liaison with NRA and CR to iron out specific details. We have also arranged a one-week training for relevant government departments in Hong Kong to familiarise colleagues with the management of XRL.

Our connection with the Mainland's railway authorities is important as they have rich experience in high speed railway management which Hong Kong can learn from. Upon full commissioning of the Hong Kong Section of XRL, we anticipate to maintain a close working relationship with both NRA and CR.

### 節能行動

能源效益方面，2017/18年度的重大進展是立法會通過了《能源效益(產品標籤)條例》修訂建議，讓我們順利推行「強制性能源效益標籤計劃」第三階段，進一步擴大計劃的涵蓋範圍。與此同時，該計劃第四階段的可行性研究工作正在進行中，目的是把更多具有龐大節能潛力的產品(例如LED燈和住宅氣體用具)納入計劃的涵蓋範圍。

年內，我們繼續為業界和市民大眾舉辦推動節能的活動，例如「全民節能」運動和「慳神有計大比拼2017」計劃，並新增了相關的比賽組別，參加人數也持續上升。

至於啟德發展區區域供冷系統，已由2017年6月開始向機電署總部供應冷凍水，使我們的空調系統能以更節能的方式運作。由於啟德發展區未來的供冷需求會不斷增長，我們已計劃在區內多建一個區域供冷廠房，以滿足未來需要。啟德區域供冷系統於2025年完全落成後，將會接駁至啟德發展區內約50幢建築物。我們亦正研究在古洞北和東涌新市鎮擴展區等新發展區推行區域供冷系統的可行性。

提倡更廣泛使用可再生能源，是政府的重點措施之一。我們會就2017年推出的「可再生能源上網電價」(「上網電價」)計劃，向環境局提供技術支援，例如出版技術指引、提供工程承辦商名冊、操作電話熱線和推出相關網站等。

### 推動創科

作為本港機電安全及能源效益的規管者、促成者和推廣者，我們必須掌握新科技的發展趨勢，並作出有效回應。以氣體安全為例，近年家用空調機漸多採用較環保但易燃的雪種，而有關的安全問題也涉及多個部門的規管範圍，因此我們於早前成立了「跨部門工作小組」，以理順相關工作。

我們成功協助空調機進口商、供應商和業界人士，採取相應的配合行動，促進他們以安全手法處理含易燃雪種的空調機，並加強對公眾的宣傳工作，讓市民認識使用含易燃雪種空調機的安全須知。

### ENERGY SAVING INITIATIVES

On the energy efficiency front, a key development in 2017/18 was the Legislative Council's passing of the proposed amendments to the Energy Efficiency (Labelling of Products) Ordinance. This enabled us to introduce the third phase of Mandatory Energy Efficiency Labelling Scheme (MEELS), further extending the coverage of MEELS. Meanwhile, the feasibility study on the fourth phase of MEELS is now underway, which is aimed to incorporate more products with good potential for significant energy saving (such as LED lights and domestic gas appliances) into the Scheme.

During the year, we organised for the trade and members of the public various activities to drive energy saving, such as the "Energy Saving for All" campaign and the Energy Saving Championship Scheme 2017, with new competition categories added and a continuous rise in the number of participants.

As for the District Cooling System (DCS) at Kai Tak Development (KTD), it began supplying chilled water to EMSD Headquarters in June 2017 to enable the operation of our air-conditioning system in a more energy-efficient manner. As there will be increasing cooling demand at KTD in the coming years, we are already planning for an additional DCS plant at Kai Tak to meet future needs. Upon full completion in 2025, the DCS at Kai Tak will be connected to about 50 buildings in KTD. Furthermore, we are currently studying the feasibility of implementing DCS in new development areas, such as Kwu Tung North and the Tung Chung New Town Extension Area, etc.

Promoting wider adoption of renewable energy is one of the Government's priorities. We shall provide technical support to the Environment Bureau on the Renewable Energy Feed-in Tariff (FiT) Scheme launched in 2017, such as publishing technical guidelines, maintaining a register of contractors, operating the hotline and launching a related website, etc.

### PROMOTING INNOVATION AND TECHNOLOGY

As the regulator, facilitator and promoter of E&M safety and energy efficiency, we must be alert to the development trends of new technology and respond effectively. Take gas safety as an example, the increasing use of household air-conditioners with eco-friendly but flammable refrigerants has prompted us to set up an Inter-departmental Working Group earlier to address the issue that touches on the regulatory regimes of various government departments.

We have successfully facilitated importers, suppliers and trade practitioners of air-conditioners to take complementary actions in handling household air-conditioners with flammable refrigerants in a safe manner. We have also stepped up our publicity efforts to raise public awareness of the safe use of air-conditioners containing such refrigerants.



## 服務回顧 Operations Review

鑑於網上購物越來越流行，規管服務的電氣產品安全團隊更積極調查和跟進在電子商貿平台出售的電氣產品。另一方面，2016年發生的牛頭角迷你倉大火，促使我們考慮收緊迷你倉這類場所的規管要求，例如考慮強制規定所有迷你倉必須就其固定電力裝置進行定期檢測。以上僅列舉幾個例子，說明我們經常主動探討新科技帶來的挑戰，以及觀察社會大眾不斷變化的需要，從而採取適切的行動回應。

因此，規管服務不單大力支持營運基金最近成立的創新辦公室，協助初創企業發展創科項目，更會主動尋求和應用各種創科方案，包括與大學合作，以進一步加強規管工作的成效。舉例來說，在巡查舊式升降機的制動器方面，如有一套網上方案供機電署同事對全港註冊承辦商和註冊工人的維修保養時間表進行實時監察，對於加強我們進行相關的抽查工作會有很大幫助。我們會與創新辦公室聯繫，尋找可提供類似方案的企業。

### 社區參與

機電署總部大樓近年進行了不少改善工程，這是我們接觸社區人士和市民大眾的整體措施之一。此外，我們的教育徑也不斷進行優化，以更方便和互動的方式，讓市民大眾了解我們在機電安全、能源效益和為社會提供機電服務方面的各項工作，而年內的里程碑之一，就是經全面翻新並已於2018年3月重開的「機電·夢飛翔」展覽館。我們近年也在總部大樓外的露天廣場，添置了很多可再生能源設施和綠化景物，讓途人能享用這公共空間。我們會繼續優化露天廣場，加添更多綠色元素，為社會起示範作用。

我們亦積極透過多項活動主動接觸市民，推廣各項機電安全和能源效益的信息。在2018年1月，我們聯同十多間業界機構舉辦「機電嘉年華2018」，藉着有趣的攤位遊戲和表演，吸引了12 000多名市民參與。我們亦透過定期舉辦的外展講座及「機電青少年大使」計劃，向學童及青少年作重點推廣，為社會培育更多具機電知識及對此感興趣的人才。

Likewise, as online shopping is increasingly popular, our electrical product safety team has investigated and followed up on the electrical products sold on e-commerce platforms in a more proactive manner. On a separate note, the Ngau Tau Kok mini storage fire in 2016 has prompted us to consider tightening the regulatory control of mini storage premises, such as requiring all mini storage facilities to carry out periodic testing of their fixed electrical installations. These are just a few examples of our proactive approach in exploring and responding to the challenge of new technology and the community's evolving needs.

Therefore, Regulatory Services not only support the work of EMSTF's newly established Inno-Office to assist I&T development by start-ups, but also actively source and deploy I&T solutions, including collaboration with universities, to further improve the effectiveness of our regulatory work. One possible area is our inspection of brake maintenance in aged lifts, which will benefit from having an online I&T solution that enables our colleagues to monitor real-time the maintenance schedule of Registered Contractors and Registered Workers so that we can carry out prompt random checks. We shall liaise with the Inno-Office to identify enterprises that can provide such a solution.

### COMMUNITY ENGAGEMENT

Improvement works at our headquarters in recent years were part of our overall effort to reach out to our neighbourhood and the community. The revamped EMSD Gallery, re-opened in March 2018, was a milestone in our ongoing work to make our Education Path more accessible and interactive, so that the public can learn more about our work on E&M safety, energy efficiency and our E&M services provided to the community. Likewise, we have added many renewable energy and green features to our piazza in recent years, making it a truly enjoyable public space for our neighbours and passers-by. We will continue to enrich our piazza with more green elements to set a good example for the community.

We also get in touch with the community in a proactive manner to promote E&M safety and energy efficiency through a series of events. In January 2018, we jointly organised the E&M Carnival 2018 with more than ten organisations from the trade. The interesting game booths and shows attracted the participation of over 12 000 people. We also focused our publicity efforts on students and young people through regular outreach talks and the E&M Young Ambassador Programme, with a view to nurturing more talents with E&M knowledge and interest in this area.

### 來年重點

踏進2018/19年度，我們將忙於籌備高鐵香港段及沙中綫大圍至紅磡段的開通工作。升降機及自動梯安全工作則會是另一重點，政府如就加快優化舊式升降機的措施作出最後決定，我們必會全力提供支援。此外，我們正以啟德發展區區域供冷系統的成功經驗為基礎，計劃實施新的區域供冷系統及其他能源效益基建項目，亦會積極推廣可再生能源發電設施的安裝及應用。在氣體安全方面，我們會密切監察空調機易燃雪種的發展及應用，以確保安全。為準備未來日益增加的工作，規管服務團隊已由原來的300多人增至400多人。我們必會盡力善用珍貴的人力資源。

### 致謝

作為規管者，我們一直與機電業界緊密聯繫，確保他們符合法例，同時也與市民大眾保持溝通，提高其安全及節能意識。隨着我們加強作為「促成者」和「推廣者」的角色，我們與其他持份者的聯繫，例如創科界的初創企業以至總部大樓的鄰近社區等，將會更形重要。

對於所有持份者、機電署員工、決策局及其他政府部門的大力支持，我們謹此衷心致謝。我們也感謝出任各諮詢及技術委員會成員的學者、專業團體、非政府機構、培訓機構及業界組織，給予我們的鼎力支持。至於內地和海外的規管機構，更慷慨分享其知識與經驗，讓我們在年內克服了多個挑戰，實在獲益良多。

有賴大家繼續支持，我們期待為香港再創佳績。



**賴漢忠**  
機電工程署副署長/規管服務

### HIGHLIGHTS NEXT YEAR

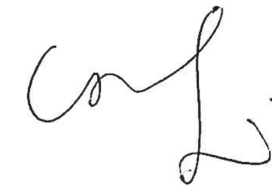
Stepping into 2018/19, we shall be busy with final preparations for the opening of the Hong Kong Section of XRL and the Tai Wai to Hung Hom Section of the Shatin to Central Link. Lift and escalator safety is another priority, and we stand ready to provide support when the Government has made its final decision on measures to accelerate the modernisation of aged lifts. Riding on the success of the DCS in KTD, we are planning to implement new DCS and related energy efficiency infrastructure projects, and will also actively promote the installation and application of renewable energy generating facilities. As for gas safety, we will closely monitor the development and application of flammable refrigerants in air-conditioning units to ensure safety. Indeed, the Regulatory Services team has expanded from about 300 to over 400 staff in anticipation of a growing portfolio. We shall make the best use of our valuable human capital.

### GRATITUDE AND APPRECIATION

As a regulator, we have always worked closely with the E&M trades to ensure their compliance with the law, and communicated with the public to enhance their awareness of safety and energy efficiency. As we step up our role as a “facilitator” and “promoter”, our contact with other stakeholders such as I&T start-ups and our neighbouring community have become increasingly important too.

We wish to express our sincere gratitude to all stakeholders, EMSD staff, policy bureaux and fellow government departments for their valuable support. Our appreciation also goes to those academics, professional bodies, NGOs, training institutes and trade organisations serving on our advisory and technical committees that have given us unfailing support. Our Mainland and overseas counterparts have been most generous in sharing their knowledge and experience, without which we could not have overcome so many challenges in the past year.

With your continued support, we look forward to striving further for the benefit of Hong Kong.



**Lai Hon-chung, Harry**  
Deputy Director/Regulatory Services, EMSD



# 年度亮點 Highlights of the Year

## 《電力(線路)規例工作守則》 2015年版全面落實

《電力(線路)規例工作守則》(2015年版)經過兩年寬限期後於2017年11月30日全面生效。此經修訂的工作守則包含各項修訂及新要求，並利用更多圖片說明各項工序，有助電業人員易於理解，以符合《電力(線路)規例》的法定要求。

## COP FOR THE ELECTRICITY (WIRING) REGULATIONS (2015 EDITION) EFFECTIVE

The Code of Practice for the Electricity (Wiring) Regulations 2015 Edition came into full effect on 30 November 2017, after a two-year grace period. With various amendments and new requirements, this revised CoP, with more visual depictions of various working processes for easy understanding, can help the electrical trade meet the legal requirements of the Electricity (Wiring) Regulations.

## 為煤氣用戶進一步拓展定期 安全檢查計劃

我們擴大了香港中華煤氣有限公司專為「長期沒接受安全檢查服務」的煤氣用戶而設的定期安全檢查計劃，增至涵蓋香港房屋委員會轄下共40個公共屋邨及香港房屋協會轄下共13個屋邨，分別為3 200及660個這類用戶提供定期安全檢查服務。

## REGULAR SAFETY INSPECTION PROGRAMME FURTHER EXTENDED FOR TOWN GAS USERS

We extended the scope of the Regular Safety Inspection programme of the Hong Kong and China Gas Company Limited for Long-Time-No-Service town gas account holders to a total of 40 public housing estates under the Hong Kong Housing Authority and 13 housing estates under the Hong Kong Housing Society, reaching 3 200 and 660 such accounts respectively.

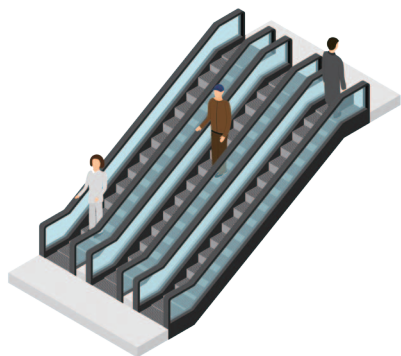


## 《升降機工程及自動梯工程 實務守則》修訂版出版

《升降機工程及自動梯工程實務守則》修訂版已於2018年8月出版，並將於2019年2月1日起全面生效。此新版本包含有關升降機和自動梯工程的最新安全及工作要求，以及為舊式升降機而設的新短期措施，目的是提高升降機及自動梯工程的安全水平及質素。

## ISSUE OF THE REVISED COP FOR LIFT WORKS AND ESCALATOR WORKS

The revised version of the Code of Practice for Lift Works and Escalator Works was issued in August 2018 and will take effect on 1 February 2019. This new edition contains the latest safety and working requirements for lift and escalator works, as well as new short-term measures for aged lifts, aiming to raise the safety and quality of lift and escalator works.



## 在香港主辦第27屆國際鐵路 安全議會年度會議

我們於2017年10月與港鐵公司攜手，成功舉辦了第27屆國際鐵路安全議會年度會議，主題為「鐵路安全—創新及協作」。是次鐵路界的國際盛事，吸引了來自40個國家/地區超過300名代表參加，包括內地的高層官員。

## HOSTING THE 27TH IRSC ANNUAL CONFERENCE IN HONG KONG

The EMSD hosted the highly successful 27th International Railway Safety Council (IRSC) annual conference in Hong Kong in October 2017, jointly with the MTR Corporation, with the theme "Railway Safety — Innovation and Collaboration". An important international event for the railway industry, the conference attracted over 300 delegates from 40 countries/regions, including senior officials from the Mainland.



## 主辦亞太經合組織能源工作 小組第55次會議和相關會議

有關亞太經合組織能源工作小組第55次會議和相關會議的籌備工作，也是年內重點之一。這是香港在APEC成立28年來第三次主辦有關會議，並吸引了來自19個亞太經合組織成員經濟體的180多名代表參加。是次會議再次彰顯香港這城市在推動能源效益及有關議題上的國際領先地位。

## HOSTING THE 55TH APEC ENERGY WORKING GROUP MEETINGS AND ASSOCIATED MEETINGS

Preparations for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group and Associated Meetings was a highlight of the year. This was the third time that the meetings had been hosted in Hong Kong over the past 28 years since APEC was founded, with over 180 representatives from 19 APEC member economies attending, once again putting Hong Kong on the map as a leading city in energy efficiency and related issues.



# 重要數字 Key Figures

## 電業工程人員 ELECTRICAL WORKERS



註冊電業工程人員  
REGISTERED ELECTRICAL  
WORKERS

2016  
**76 739** 名  
NOS.

2017  
**78 304** 名  
NOS.

## 電業承辦商 ELECTRICAL CONTRACTORS



註冊電業承辦商  
REGISTERED ELECTRICAL  
CONTRACTORS

2016  
**11 676** 間  
NOS.

2017  
**12 169** 間  
NOS.

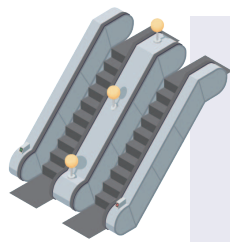
## 升降機及自動梯 LIFTS AND ESCALATORS



升降機  
LIFTS

2016  
**64 930** 部  
NOS.

2017  
**66 735** 部  
NOS.

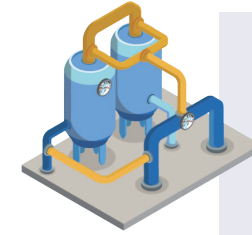


自動梯  
ESCALATORS

2016  
**9 156** 部  
NOS.

2017  
**9 502** 部  
NOS.

## 燃氣供應 GAS SUPPLY



氣體喉管網路總長  
TOTAL LENGTH OF GAS  
PIPE NETWORK

2016  
**3 614** 公里  
KM

2017  
**3 636** 公里  
KM

## 車輛維修技工 VEHICLE MECHANICS



註冊車輛維修技工  
REGISTERED VEHICLE  
MECHANICS

2016  
**8 384** 名  
NOS.

2017  
**9 359** 名  
NOS.

## 車輛維修工場 VEHICLE MAINTENANCE WORKSHOPS



註冊車輛維修工場  
REGISTERED VEHICLE  
MAINTENANCE WORKSHOPS

2016  
**1 675** 間  
NOS.

2017  
**1 942** 間  
NOS.

## 鐵路 RAILWAY



鐵路年度載客量  
RAILWAY ANNUAL  
PATRONAGE

2016  
**1 893** 百萬  
MILLION

2017  
**1 945** 百萬  
MILLION



# 保障公眾安全 Protecting Public Safety

## 電力安全 ELECTRICAL SAFETY

### 事故減少

電力安全於2017年持續改善，歸功於固定電力裝置、家用電器及供電電纜事故的相關數字下降。電力事故總數由2016年的151宗，減至2017年的130宗。

儘管香港目前正進行多項基建工程，供電電纜事故數目仍能降至34宗，創歷年新低，我們感到十分欣慰。相信是我們增加巡查，確保工作各方人員都遵守規定，以及整年舉辦多場安全簡介會及業界培訓計劃的成果。

### 《電力(線路)規例工作守則》(2015年版) 現已實施

經過兩年寬限期後，《電力(線路)規例工作守則》(2015年版)於2017年11月30日全面生效。修訂後的《工作守則》，可謂香港7萬多名註冊電業工程人員的「聖經」，主要修訂包括把守則涵蓋範圍擴展至高壓裝置、使用可上鎖開關掣新規定、審視工作許可證制度等。我們亦把「帶電工作風險評估報告」簡化至清單列表格式，方便前線工作人員填寫。

總括而言，此經修訂的《工作守則》就如何達到《電力(線路)規例》的法定要求提供實用技術指引，並利用更多圖片說明各項工序。

為提升電業界對此《工作守則》的認知，我們透過業界研討會及經驗分享會，廣泛宣傳其條文。我們亦透過電子通訊和一系列短片，講解可上鎖的斷路器和工作許可證制度等。這些宣傳活動均廣受業界好評。

### Fewer Incidents

Electrical safety continued to improve in 2017 with a decline in incident figures related to fixed electrical installations, household appliances and electricity supply lines. The total number of electrical incidents in 2017 was 130, down from 151 in 2016.

We are especially pleased to note that the number of electricity supply line incidents has decreased to 34, a record low, despite the many infrastructure projects currently underway in Hong Kong. This was the result of the greater number of inspections carried out to ensure all working parties were complying with the regulations, as well as our year-round safety briefings and trade education programmes.

### CoP for the Electricity (Wiring) Regulations (2015 Edition) Implemented


The Code of Practice for the Electricity (Wiring) Regulations (2015 Edition) came into full effect on 30 November 2017, after a two-year grace period. Key amendments to this revised CoP, known as the "bible" among more than 70 000 registered electrical workers in Hong Kong, included the extension of coverage to high voltage installations, new requirements on the use of lockable switches and a review of the permit-to-work system, among others. The Risk Assessment Report on Live Work was also simplified with a more user-friendly checklist format for frontline workers.

Overall, the revised CoP gives useful general technical guidelines on how to meet the legal requirements of the Electricity (Wiring) Regulations, and contains more visual depictions of various working processes.

To raise the electrical trade's awareness of this CoP, we carried out extensive briefings on its provisions via trade seminars and experience sharing sessions as well as e-newsletters and a series of videos covering issues such as the proper use of lockable circuit breakers and the permit-to-work system. All of these publicity programmes were well-received by the trade.

### 電力(線路)規例 工作守則

2015年版



機電工程署

《電力(線路)規例工作守則(2015年版)》的兩年寬限期已於2017年11月30日結束，現已全面生效。工作守則利用更多圖片說明各項工序，有助電業人員易於理解，以符合《電力(線路)規例》的法定要求。

The Code of Practice for the Electricity (Wiring) Regulations 2015 is now fully effective, after a two-year grace period that ended on 30 November 2017. This CoP helps the electrical trade meet the legal requirements of the Electricity (Wiring) Regulations, with more visual depictions of various working processes for easy understanding.

### 審視《有關在供電電纜附近工作的實務守則》

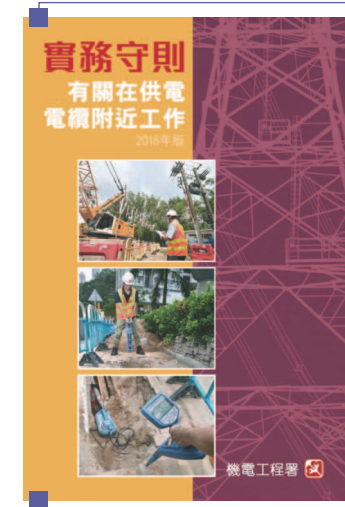
我們於年內持續改善其他實務守則。早前，我們與業界成立了工作小組，審視及更新《有關在供電電纜附近工作的實務守則》，諮詢不同持份者的意見，如政府部門、公用事業機構、行業協會、工會及專業團體。收納了業界意見的《實務守則》新版本已於2018年6月29日在憲報刊登，而正式實施前設有六個月寬限期。

《實務守則》新版本有助進一步降低事故發生的風險，以及減低因在地下電纜附近挖掘及在架空電纜附近使用起重機或吊機而造成停電的可能性。我們將制訂宣傳計劃，多管齊下，透過簡介會、研討會及講座等，向業界推廣《實務守則》新版本。

### Review of the Code of Practice (CoP) on Working near Electricity Supply Lines

Our work to enhance other codes of practice continued during the year. Earlier, we had set up a working group with the trade to review and update the CoP on Working Near Electricity Supply Lines, with comments solicited from different stakeholders such as government departments, utility companies, trade associations, workers' unions and professional organisations. The new edition of the CoP, incorporating the trade's input, was published in the Gazette on 29 June 2018 and has a six-month grace period before implementation.

The new edition of the CoP will further reduce the risk of incidents and power outages arising from excavations near underground electricity cables, as well as cranes or hoists operating near overhead electricity lines. Publicity plans will be formulated to promote this new edition to the trade via multiple channels, such as briefings, seminars and talks.



《有關在供電電纜附近工作的實務守則》新版已於2018年6月刊憲，我們並將向業界廣泛宣傳其內容。

This new edition of the Code of Practice on Working near Electricity Supply Lines was gazetted in June 2018 and will be widely publicised to the trade.

### 有關迷你倉巡查的最新資訊

2016年6月牛頭角迷你倉火災後，我們除了協助消防處調查外，亦於年內繼續加強巡查香港的迷你倉，並就違規個案發出改善通知書。巡查範圍包括所有不設自動灑水系統的迷你倉，以及抽查三成設有自動灑水系統的迷你倉。

鑑於迷你倉的潛在危險，我們計劃更嚴謹地進行規管，包括引入法定年度檢查。另一個可行措施，是要求迷你倉每五年進行固定電力裝置定期測試。目前，大部分迷你倉電力裝置的允許負載量均低於100安培，未須依法例要求進行定期測試，我們現正就此事宜諮詢業界。

### Mini-Storage Inspections Update

After the fire at a mini-storage in Ngau Tau Kok in June 2016, we continued to step up inspections of mini-storages in Hong Kong throughout the year and issue improvement notices in cases of non-compliance, while also assisting in investigations led by the Fire Services Department. The inspections covered all mini-storages without automatic sprinkler systems and 30% of mini storages with automatic sprinkler systems.

In view of the potential hazards posed by mini-storages, we intend to regulate the market more closely, including the introduction of statutory annual inspections. Another possible measure would be to require all mini-storages to carry out Periodic Testing (WR2) of fixed electrical installations once every five years, a requirement from which most mini-storages are currently exempted as the approved loading of their electrical installations is usually below 100 A. Consultation with the trade on these matters is currently underway.



## 保障公眾安全 Protecting Public Safety



機電署及國家質檢總局根據合作協議雙方代表於2017年6月假香港舉行第14次年度會議。  
EMSD and AQSIQ representatives at the 14th annual general meeting of their cooperation arrangement, held in Hong Kong in June 2017.

會議期間，我們在九龍灣舉辦聯合公開展覽，提高公眾對兩家機構過去14年來，在推廣機電安全和能源效益方面工作的認識。  
A joint public exhibition was concurrently held in Kowloon Bay to raise public awareness of the two organisations' work in promoting E&M safety and energy efficiency in the past 14 years.



### 與內地通力合作十四載

2017年是機電署與國家質量監督檢驗檢疫總局(國家質檢總局)合作以促進內地和香港的機電安全及能源效益的14周年。在2018年4月，國家質檢總局有關部門已納入海關總署，我們將與新伙伴繼續通力合作。

在2017年6月，我們與國家質檢總局於香港舉行第14次年度會議。藉此機會，我們於九龍灣舉行聯合公開展覽，以提高公眾對機電署與國家質檢總局多年來在推廣機電安全和能源效益方面工作的認識。與此同時，我們亦籌辦了業界聚會，以促進香港製造商、批發商和零售商之間的聯繫，以及提供直接溝通的機會。

### 目標為本的方針

我們秉持以目標為本為方針與持份者溝通。我們就經修訂的《電力(線路)規例工作守則》為「問題」承辦商及其工作人員提供指引，以發揮最大影響力。有關該工作守則的新影片，早在實施前已上載到機電署網站及社交平台供公眾觀看。我們的同事更舉辦超過40場研討會及出訪工地300多次，向承辦商及前線工作人員講解該工作守則的要點。

### 14 Years of Cooperation with the Mainland

The year 2017 marked the 14th anniversary of EMSD's cooperation with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) to promote E&M safety and energy efficiency in both the Mainland and Hong Kong. In April 2018, the related departments of AQSIQ have since been integrated into the General Administration of Customs, which will become our new partner for continued cooperation.

We held the 14th annual general meeting with AQSIQ in June 2017 in Hong Kong. Taking this opportunity, a joint public exhibition was held in Kowloon Bay to raise public awareness of the two organisations' work in promoting E&M safety and energy efficiency over the years. Concurrently, we organised a trade gathering for manufacturers, wholesalers and retailers in Hong Kong to facilitate their networking and direct communication.

### Target Oriented Approach

In line with our targeted approach of communicating with stakeholders, we have been engaging with "problem" contractors and their workers to provide guidance on the revised Code of Practice on Electricity (Wiring) Regulations in order to maximise its impact. A new video on the Code of Practice was uploaded, well before its implementation date, onto our website and social media for public viewing. Our team also held over 40 seminars and made more than 300 work site visits to brief contractors and frontline workers on its key points.

在電氣產品安全方面，我們於2018年3月與電氣產品業界舉行了半年一次的定期會議，參與者包括來自六個行業協會的製造商、批發商和零售商，讓它們就電氣產品安全、法定要求、宣傳工作和事故預防等事宜直接溝通。這個新聯合平台，對於討論電氣產品行業不同界別之間有共同利益或關注的議題，實十分有用。

每年一度的「傑出註冊電業工程人員選舉」亦有所改善。我們採納了業界的意見，在現有的「個人組」以外增設了「團隊組」，從而鼓勵更多註冊電業工程人員參加。頒獎典禮於2017年11月「年度電力規例研討會」上舉行，得獎的個人和團隊來自機電業不同範疇，他們致力實踐安全守則，卓越表現得到肯定。

### 大亞灣應變計劃演習

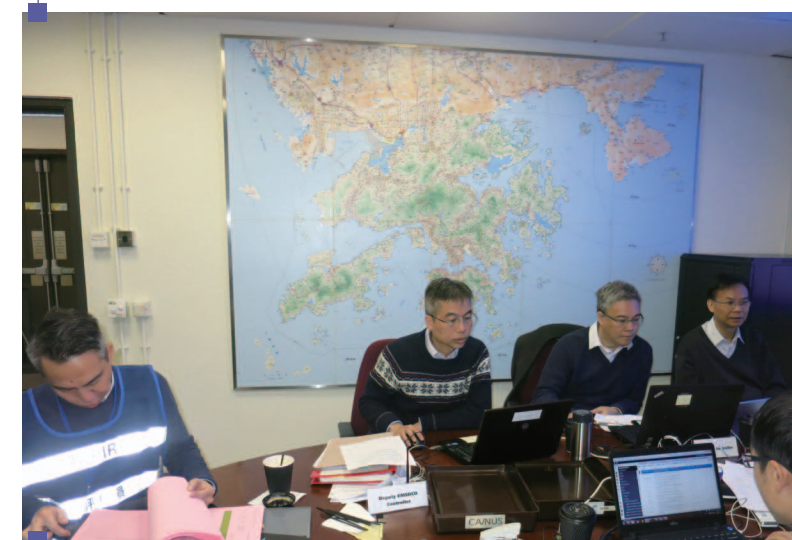
在2017年12月，我們參與了由保安局帶領多個政府部門進行為期兩天的跨部門大亞灣應變計劃演習。是次演習充分檢視了我們對大亞灣核電廠狀況的認知，以及我們處理嚴重核事故的應變能力。

With regard to electrical product safety, in March 2018 we held our biannual regular meeting with the electrical product trade, including manufacturers, wholesalers and retailers from six trade associations, to engage them directly on matters of electrical product safety, statutory requirements, publicity work and incident prevention. This new joint platform is particularly valuable for discussing issues of common interest or concern across different sectors of the electrical product trade.

Our annual Outstanding Registered Electrical Worker Awards Scheme was also enhanced. Based on the feedback from the trade, we added a new "Team" category to the 2017 Awards Scheme as a supplement to the existing "Individual" category in order to encourage more participation by Registered Electrical Workers. The awards presentation ceremony was held in November 2017 at the Annual Technical Seminar, during which winning individuals and teams from different disciplines of the electrical industry were recognised for their excellent performance and safe practices.

### Drill Exercise on the Daya Bay Contingency Plan

In December 2017, we participated in a two-day inter-departmental drill of the Daya Bay Contingency Plan, which was led by the Security Bureau and involved many government departments. The drill critically examined our knowledge of nuclear power plant conditions at Daya Bay and our response capabilities in dealing with serious nuclear incidents.



機電署參與了2017年12月舉行的跨部門大亞灣應變計劃演習，圖為規管服務的同事正監察有關情況。演習由保安局帶領多個政府部門進行。

Our Regulatory Services colleagues monitoring the situation during the inter-departmental drill of the Daya Bay Contingency Plan in December 2017, led by the Security Bureau with many government departments participating.





## 保障公眾安全 Protecting Public Safety

### 未來一年

2018/19年度將開展多項活動以加強電力安全，包括落實獲業界支持的迷你倉法定年度檢查。另外，我們將透過通訊和海報、新的電視宣傳片，以及帶有一至兩個簡明訊息的一分鐘有聲/無聲動畫短片，向業界及公眾傳達電氣安全（包括產品安全）的訊息。這些宣傳資訊亦會經由傳統媒體、社交媒體、外展計劃及機電署的網站發放，把訊息傳遞給目標受眾。

在電氣產品安全方面，我們將檢視《電氣產品（安全）規例指南》，加深供應商對有關規定的了解，並更新相關產品的安全標準。新一輪以零售商為主要對象的外展活動將於來年展開，會特別針對電氣產品安全意識較薄弱的小商戶。此外，我們還計劃製作新動畫影片，提醒消費者在網上購買電氣產品時，要注意額定電壓和插頭規格，尤其是非源自香港的產品。

最後，我們將會為政府與兩電最近達成的《管制計劃協議》中的上網電價計劃提供支援，透過向公眾提供有關註冊可再生能源發電設施的指引，鼓勵社區參與生產可再生能源。

### The Year Ahead

Various initiatives to enhance electrical safety will kick off in 2018/19, including the implementation of statutory annual inspections of all mini storage facilities, a measure supported by the mini storage trade. We will also communicate our messages on electrical safety (including product safety) to the trade and the public through newsletters and posters, new TV announcements and one-minute short animation videos carrying one or two concise messages, with or without sound. All will be delivered via traditional media, social media, outreach programmes and EMSD's own website to reach specific audiences.

With regard to electrical product safety, we will review the Guidance Notes for the Electrical Products (Safety) Regulation to help suppliers understand more clearly the regulation's requirements and to update the relevant product safety standards. A new round of outreach activities aimed at retailers, especially owners of small shops whose awareness of electrical product safety might be lower, will be held in the year ahead. Also planned is the production of a new animation video advising consumers to heed rated voltage and plug information when purchasing electrical products online, particularly products not originating in Hong Kong.

Finally, we will provide support for the recently announced FIT scheme that forms part of the new Scheme of Control Agreements between the Government and the two power companies by providing guidelines to the public on how to register their renewable energy generating facilities to encourage the community to participate in generating renewable energy.



### 服務社區，樹立榜樣

## Serving the Community and Setting an Example

身為機電署第一位女性電氣督察，電力法例部的陸婉明鼓勵年輕女性加入部門的「技術員訓練計劃」，在事業上全面發揮潛能。

EMSD's first female Electrical Inspector, Luk Yuen-ming of the Electrical Legislation Division, encourages young women to join the Department's Technician Training Scheme to realise their full potential in career development.



人稱「師妹」的陸婉明，是機電署首位女性獲委任為電氣督察。

1996年，機電署的「學徒訓練計劃」只有兩名女性，師妹就是其中之一。儘管少數男同事最初對女性從事技術工作感到抗拒，但她堅毅不屈，更證明女性也能在這行業取得成功。

她的首個任務是負責整個赤鱘角香港國際機場的配電系統。其後，她更通過考試，成為機電署首位助理電氣督察，並於2017年晉升為電氣督察。

目前，她於機電署總部電力法例部工作。在這崗位，她負責巡查樓宇，確保它們符合電力安全要求。

婉明說：「我從服務提供者變成執法者，需要好好調整心態，幸好我為人豁達開朗，很快便能適應過來。」

當被問及她對年輕女性選擇職業時有何建議，她說：「即使學業成績一般，女性仍可在職業生涯發揮所長。隨着更多女性加入職場，機電署給予女性的支援亦越來越多。」

她也很感謝機電署給予的機會。在回顧其職業生涯時，她衷心感激一直幫助自己的資深同事。「我的一位上司趙師兄曾對我說：『不要忘記身邊有很多同事一直幫助你』。這句話時刻提醒我，不要因得着而自負，亦成為我在遇到困難時的鼓勵和支持。」

Known as *si mui* (junior colleague) to her workmates, Luk Yuen-ming is the first woman at EMSD to be appointed as an Electrical Inspector.

In 1996, she was just one of two women to enter the EMSD Apprentice Training Scheme. Despite some initial resistance from a few male colleagues, she went on to prove that women could succeed in a technical career.

Her first assignment was working on the power distribution system for the entire airfield of the Hong Kong International Airport located at Chek Lap Kok. After passing an exam, she then became the first Assistant Electrical Inspector at EMSD and was promoted to Electrical Inspector in 2017.

Today, she works in the Electricity Legislation Division at EMSD Headquarters. In this role, she inspects buildings to ensure they comply with electrical safety requirements.

"I went from being a service provider to a law enforcer," said Yuen-ming. "That required a big change in mentality but fortunately I am an open-minded person and can adapt quite fast."

When asked what advice she might have for girls choosing a career path, she said that "even if you don't excel academically, you can still be productive in your career. As more women enter the workforce, EMSD has offered increasing support to women."

She is also grateful to EMSD for the opportunities she has been given. Looking back on her career, she truly appreciates her senior colleagues who have helped her along the way. "One of my superiors, Mr Chiu, once told me not to forget there are many supportive colleagues around me. His words are a constant reminder to me that I should not be conceited for what I have achieved, and have been an encouragement and support to me in difficult times."



## 保障公眾安全 Protecting Public Safety

### 氣體安全 GAS SAFETY

#### 氣體事故宗數下降

氣體事故總計宗數由2016年的275宗下降至2017年的236宗。當中因煤氣用戶喉管銹蝕及氣體用具故障導致的事故宗數，由2016年的54宗下降至2017年的32宗。石油氣事故宗數亦維持在低位。

事故宗數大幅下降，有賴我們與香港中華煤氣有限公司（「煤氣公司」），以及其他公共機構，包括香港房屋委員會（「房委會」）和香港房屋協會（「房協」）的通力合作，攜手推出多項氣體安全宣傳活動及定期安全檢查計劃。

#### 擴大屋邨氣體裝置定期安全檢查的覆蓋範圍

2017/18年度，我們擴大了煤氣公司定期安全檢查計劃的覆蓋範圍，涵蓋在過去五年因工作人員未能進屋為煤氣裝置進行檢查及保養，而「長期沒接受安全檢查服務」的屋邨煤氣用戶。

煤氣公司與房委會合作，擴大其定期安全檢查計劃至「長期沒接受安全檢查服務」的用戶，由2016/17年度的八個房委會轄下的公共屋邨，增加至2017/18年度合共40個，覆蓋約3 200個有關用戶。在計劃實施後，截至2018年第一季，就這些「長期沒接受安全檢查服務」的屋邨煤氣用戶而言，整體成功入屋率約為77%，成績令人鼓舞。

#### Drop in Gas Incidents

The total number of gas incidents in 2017 was 236, down from 275 in 2016. Of these, incidents caused by town gas installation pipe corrosion and appliance faults dropped from 54 in 2016 to 32 in 2017. The number of LPG incidents also remained low.

The considerable reduction in incident numbers can be largely attributed to the efforts of our Gas Standards Office and co-operation with the Hong Kong and China Gas Company Limited (HKCG), as well as other public bodies such as the Hong Kong Housing Authority (HKHA) and the Hong Kong Housing Society (HKHS) in various joint gas safety promotions and regular safety inspection programmes.

#### Greater RSI Coverage in Housing Estates

In 2017/18, we extended the scope of HKCG's Regular Safety Inspection (RSI) programme to Long-Time-No-Service (LTNS) town gas account holders at housing estates, whose town gas installations had not been inspected or maintained within the previous five years due to difficulties in accessing the households.

Working with HKHA, HKCG extended its RSI programme to LTNS accounts from 8 HKHA public housing estates in 2016/17 to a total of 40 HKHA public housing estates in 2017/18, covering approximately 3 200 LTNS households. As of the first quarter of 2018, an encouraging RSI access rate of about 77% was achieved among LTNS accounts in these estates.



煤氣公司員工為公共屋邨煤氣管道進行安全檢查，機電署同事在旁監察。

HKCG staff performing safety inspection on a town gas pipe at a public housing estate, with EMSD staff monitoring the process.



檢查煤氣錶狀況，是定期安全檢查的工作之一，以確保公眾氣體安全。

Checking the condition of gas meters is part of the Regular Safety Inspection work to ensure gas safety for the public.

經優化的定期安全檢查計劃，於2017年在房協轄下的13個屋苑推行，覆蓋約660個「長期沒接受安全檢查服務」用戶。計劃已於2018年第一季完成，成功入屋率約為86%。

年內，我們與市區重建局（「市建局」）合作，敦促老化樓宇的業主更換嚴重銹蝕的煤氣喉管。此外，我們亦為業界舉行氣體安全講座，並探訪工地，為前線工作人員講解正確工序，避免損壞氣體喉管，進一步減低因第三方造成氣體喉管事故的數字。

為進一步提高《避免氣體喉管構成危險工作守則》的成效，我們在考慮業界的最新發展、從過往氣體事故所汲取的經驗，以及業界最新的工作標準及慣例後，就上述《工作守則》作出修訂。經修訂的《工作守則》將於2018年刊憲後生效，並會更名為《避免損壞氣體喉管工作守則》第二版，與新修訂《工作守則》相關的宣傳工作將陸續展開。

A similar enhanced RSI programme was conducted for about 660 LTNS town gas users at 13 housing estates under HKHS in 2017, which was also completed in the first quarter of 2018. An RSI access rate of around 86% of LTNS accounts was achieved at these estates.

During the year, we also collaborated with the Urban Renewal Authority (URA) to urge owners of ageing buildings to replace heavily corroded town gas pipes. Furthermore, we conducted gas safety talks for trade associations and visited the worksites of frontline workers to offer guidance on the proper procedures for avoiding damage to gas pipes and further reduce the number of third-party damage incidents to gas pipes.

To further enhance the effectiveness of the Code of Practice (CoP) on Avoiding Danger from Gas Pipes, we have updated the CoP to take into account the latest developments in the trade, experiences learned from past gas incidents, up-to-date work standards and prevalent trade practices. The revised CoP will take effect upon its gazetting in 2018 and will be retitled as the CoP on Avoidance of Damage to Gas Pipes (2nd Edition). Associated publicity work for the revised CoP will be implemented accordingly.



機電署員工於青衣某公共屋邨進行氣體安全巡查。該屋邨也是煤氣公司為「長期沒接受安全檢查服務」用戶，進行定期安全檢查計劃的屋邨之一。

EMSD staff inspecting gas safety at a public housing estate in Tsing Yi covered by HKCG's Regular Safety Inspection programme for Long-Time-No-Service town gas account holders.



## 保障公眾安全 Protecting Public Safety

### 社區的石油氣安全

我們於2017/18年度完成了「瓶裝石油氣分銷商安全表現評級計劃」的全面檢討，尤其在評分及評估準則方面，期望能更準確地反映分銷商在安全方面的表現。該計劃由氣體標準事務處及所有註冊氣體供應公司於2016年年初推出，旨在鼓勵瓶裝石油氣分銷商提升安全水平。

經修訂的評級計劃以更有效的機制，避免分銷商向用戶過量供應及經由未獲授權的途經銷售瓶裝石油氣。該計劃亦積極推廣使用電腦化的銷售記錄系統，以確保記錄可靠和可以追查。我們已公布2017年根據經修訂計劃進行的評級結果。在166間參與的分銷商中，36間的安全表現獲評最高級別「金級」，而獲評為「銀級」及「銅級」的分銷商則分別有13間及117間。

### LPG Safety in the Community

A comprehensive review of the LPG Cylinder Distributor Safety Performance Recognition Scheme was completed in 2017/18, particularly with regard to the marking and assessment criteria, to more accurately reflect distributors' safety performance. Introduced by the Gas Standards Office and all Registered Gas Supply Companies in early 2016, the Scheme aims to encourage safer practices among LPG cylinder distributors.

The enhanced Scheme has a strengthened mechanism for discouraging the oversupply of LPG cylinders to customers and monitoring the unauthorised sale of LPG cylinders. It also promotes the use of computerised sales record systems to ensure the reliability and traceability of records. Rating results for the year 2017 under the enhanced Scheme have been announced. Among the 166 participating distributors, 36 attained a gold rating, the highest level of safety performance, while 13 and 117 received silver and bronze ratings respectively.



最新修訂並已易名的《避免損壞氣體喉管工作守則》包含最新的工作標準，並已考慮業界的最新發展。

The updated and retitled Code of Practice on avoidance of Damage to Gas Pipes contains up-to-date work standards, taking into account the latest developments in the trade.

針對公眾日漸關注壓縮氣瓶被棄置於公眾地方及垃圾收集站的問題，我們聯同另外三個政府部門，製作了一系列宣傳單張及海報，教育公眾及相關行業如何妥善處理用完的壓縮氣瓶。宣傳刊物將於2018年派發，同時亦會展開宣傳活動。

In response to increasing public concern about compressed gas cylinders abandoned at public places and refuse collection points, we have produced a series of leaflets and posters with three other government departments to educate the public and relevant business sectors on the proper handling of used gas cylinders. The publicity materials will be distributed in 2018, along with a promotional drive.

2017年的另一新舉措是首次批准在墟市活動中使用卡式石油氣爐翻熱熟食，透過跨部門合作為墟市籌辦者帶來便利。我們與食物環境衛生署和消防處合作，就草擬有關設立墟市的申請指引，提供氣體安全相關的資料。

Another new development in 2017 was that LPG cassette cookers were allowed to be used for reheating pre-cooked food at bazaar events for the first time, as part of a joint departmental effort to facilitate the work of bazaar organisers. Working with the Food and Environmental Hygiene Department and the Fire Services Department (FSD), we provided gas safety related input for the drafting of application guidelines on the setting up of these bazaars.

我們亦於家庭傭工的熱門聚腳點進行巡查，並加以宣傳教育，提醒他們安全和正確使用卡式煮食爐。

We also conducted inspections and promotional activities at gathering places popular with domestic helpers to alert them on the safe and proper use of cassette cookers.



同事簡介有關「第六類勝任人士」證書及證明卡的續期機制，以及維修石油氣車輛的最新要求。

Our colleague introducing the latest renewal mechanism for CP6 identification cards and certificates and the latest requirements for servicing LPG vehicles.

我們正檢查石油氣車輛燃料缸上的保安封條，以防止非法更換石油氣燃料缸配件。

Inspection of the security labels of an LPG Vehicle Fuel Tank to deter unlawful replacement of fuel tank components.

### 食肆及商業樓宇的氣體安全

繼士瓜灣的一間餐廳於2017年7月發生氣體爆炸後，我們加強了對食肆的巡查及宣傳工作。年內，我們到訪了18區內逾2 000間食肆，向餐廳東主及員工宣傳氣體安全。我們亦在職業安全健康局舉辦的研討會上，就商業樓宇的氣體安全事宜進行講座，與來自飲食業的參加者分享安全資訊。

### Gas Safety in Restaurants and Commercial Premises

Following the gas explosion at a restaurant in To Kwa Wan in July 2017, we have stepped up gas safety inspections and publicity work for restaurants. During the year, our teams visited more than 2 000 restaurants in 18 districts to promote gas safety practices to restaurant owners and their staff. We also delivered talks on gas safety in commercial premises at seminars organised by the Occupational Safety and Health Council, sharing safety information with participants from the catering industry.

至於其他商業樓宇，例如商場及美食廣場，我們正研究聯同多個本身為煤氣用戶的商戶及店舖東主，舉辦氣體安全及定期安全檢查推廣活動的可能性，藉以提高商業場所的氣體安全水平，使商戶/店舖東主、顧客及市民受惠。

For other commercial premises such as shopping malls and food courts, we have been exploring the possibility of organising joint gas safety and RSI promotions by aligning a substantial number of store/shop owners who are town gas users. This will enhance gas safety in commercial venues for the benefit of store/shop owners, their customers and the public.

### 石油氣車輛安全新動向

《石油氣車輛燃料缸保安封條系統工作守則》於2017年1月3日生效後，我們為所有設有內置燃料泵的石油氣車輛燃料缸貼上紅色或藍色保安封條的措施，有助提高石油氣車輛車主、司機及技工的安全意識，以合法途徑更換石油氣燃料缸配件。這項措施旨在阻遏非法更換石油氣燃料缸配件，在年內順利推行。

### LPG Vehicle Safety Update

Further to our introduction of the Code of Practice on Security Label System for LPG Vehicle Fuel Tanks that took effect on 3 January 2017, the exercise to affix red and blue security labels on LPG vehicle fuel tanks equipped with internal fuel pumps has enhanced safety awareness among LPG vehicle owners, drivers and mechanics and encouraged them to replace the fuel tank components lawfully. This exercise, which aims to deter unlawful replacement of fuel tank components, ran smoothly during the year.

年內，我們的氣體標準事務處就擬於新款混合動力的士使用的石油氣燃料缸的審批過程，主動與一間大型石油氣車輛進口商進行多次磋商，要求進口商推出額外風險緩解措施，把非法更換石油氣燃料缸配件的可能性減至最低。

During the year, the Gas Standards Office proactively liaised with a major LPG vehicle importer on the vetting process for the approval of LPG fuel tanks to be used in a new hybrid taxi. We urged the importer to implement additional risk mitigation measures that would minimise the possibility of unlawful replacement of fuel tank components.

2017/18年度，我們為「第六類勝任人士」舉辦了多場講座，簡介有關「第六類勝任人士」證明卡及證書的最新續期機制，以及維修石油氣車輛的最新要求。我們藉此機會，邀請職業訓練局及石油氣車輛進口商，與「第六類勝任人士」分享石油氣車輛的操作及保養知識。我們亦為行業協會、車輛進口商及政府部門舉辦分享會，以便他們就有關石油氣車輛的操作及保養議題交流看法和意見。

In 2017/18, we organised seminars for Competent Persons (Class 6) (CP6) to inform them of the latest renewal mechanism for CP6 identification cards and certificates, as well as the latest requirements for servicing LPG vehicles. Taking this opportunity, we invited the Vocational Training Council (VTC) and LPG vehicle importers to share their knowledge on the operation and maintenance of LPG vehicles with CP6. We also held sharing sessions for trade associations, importers and government departments to facilitate exchange of views and feedback on the operation and maintenance issues associated with LPG vehicles.



## 保障公眾安全 Protecting Public Safety

### 車輛維修技工及車輛維修工場自願註冊計劃

車輛維修技工及車輛維修工場自願註冊計劃均繼續獲業界大力支持。至今，已有逾九成的車輛維修技工及七成的維修工場註冊。這兩項註冊計劃每三年續期一次，年內取得穩步進展，註冊數字維持穩定水平。

我們的專責大使團隊全年定期探訪香港各區的車輛維修技工及工場，以推廣有關計劃及協助他們註冊和續期。

我們亦於機電署總部大樓設置示範車輛維修工場，展示在該計劃下成為註冊車輛維修工場的所需設備和設施，對於小型車輛維修工場的東主尤其有用。是次活動吸引了逾400位參加者，包括職業訓練局的學生及澳門某車輛維修行業協會的成員。

### Voluntary Registration Schemes of Vehicle Mechanics and Vehicle Maintenance Workshops

Both the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM) and the Voluntary Registration Scheme for Vehicle Maintenance Workshops (VRSVMW) continued to enjoy strong support from the trade. To date, over 90% of vehicle mechanics have registered for the VRSVM while about 70% of vehicle maintenance workshops have registered for the VRSVMW. The three-year registration renewal cycle of both Schemes made steady progress during the year, with registration numbers maintained at a steady level.

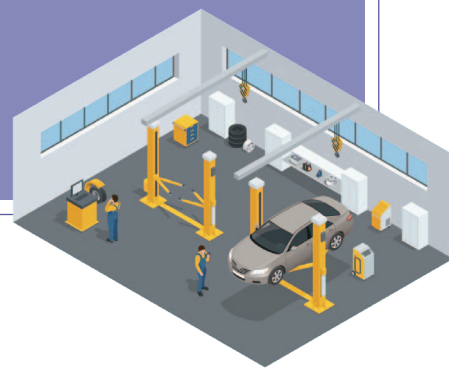
Our dedicated team of ambassadors made regular visits throughout the year to vehicle mechanics and vehicle maintenance workshops across Hong Kong to promote the Schemes and assist them with registration and renewal matters.

We also established a sample vehicle maintenance workshop at the EMSD Headquarters Building to demonstrate the set-up and facilities required for registration as a vehicle maintenance workshop under the VRSVMW. This was particularly useful to owners of smaller vehicle maintenance workshops. The event attracted over 400 participants, including students from the VTC and members of a vehicle maintenance trade association in Macau.



車輛維修業界人士與我們的同事在機電署總部設置的示範車輛維修工場前合照，共享歡樂一刻。示範工場的目的，是向業界展示在「車輛維修工場自願註冊計劃」下所要求的工場設備和設施。

Members of the vehicle maintenance trade sharing a happy moment with our colleagues in front of a sample vehicle maintenance workshop at EMSD Headquarters. The sample workshop demonstrates the set-up and facilities required for registration under the Voluntary Registration Scheme for Vehicle Maintenance Workshops.



圖為環保署於大嶼山小蠔灣的首個有機資源回收中心，能將廚餘轉化為生物氣作發電用途，預計於2018年年底開始運作。我們與環保署及其承辦商緊密合作，審查有關氣體裝置，為風險評估作出建議及監督項目。

The first Organic Resources Recovery Centre of EPD at Siu Ho Wan, Lantau Island, which converts food waste into biogas for power generation, is scheduled to be commissioned in late 2018. We collaborated with EPD and its contractor to vet the gas installations, advise on the risk assessment and monitor the project.

### 轉廢為能過程中的氣體安全

過去數年，氣體標準事務處一直支援煤氣公司、其他政府部門及公立醫院應用堆填氣體。為了減低堆填區所棄置的廚餘，以及達至政府於2022年減廢四成的目標，環境保護署（環保署）已展開有機資源回收中心項目，把廚餘轉化為生物氣用作發電用途。大嶼山小蠔灣的首個有機資源回收中心將於2018年年底投入運作。回收中心每天能處理從工商業源頭產生的200噸廚餘。這些廚餘透過生物過程產生堆肥及生物氣，以發電予回收中心使用及輸出至電網。

為確保有機資源回收中心符合氣體安全規例，以及其生物氣處理設備運作暢順，我們與環保署及其承辦商緊密合作，審查有關氣體裝置、批核負責操作和保養的合資格人士、就風險評估提出建議，以及監察項目。我們亦就粉嶺及元朗的有機資源回收中心的各項技術及環境研究提供意見，確保工程能如期竣工。

### Gas Safety in the Waste-to-Energy Process

Over the past few years, the Gas Standards Office has been supporting the HKCG, other government departments and public hospitals in the utilisation of landfill gas. To reduce food waste disposal at the landfill sites and meet the Government's reduction target of 40% by 2022, the Environmental Protection Department (EPD) has initiated the Organic Resources Recovery Centres (ORRCs) project to convert food waste into biogas for power generation. The first ORRC at Siu Ho Wan, Lantau Island is scheduled to be commissioned in late 2018. The plant is capable of treating 200 tonnes of food waste per day from commercial and industrial sources. The food waste undergoes biological processes to produce compost and biogas, which is then used to generate electricity for in-situ plant operations and the power grid.

To ensure statutory compliance with gas safety regulations and the smooth running of the biogas processing equipment at the ORRC, we collaborated closely with the EPD and its contractor to vet the gas installations, approve competent persons for its operation and maintenance, advise on the risk assessment and monitor the project. We also provided advice on various technical and environmental studies to ensure the timely completion of the ORRCs in Fanling and Yuen Long.



## 保障公眾安全 Protecting Public Safety

### 監察易燃雪種

為監察環保易燃雪種的發展及實施情況而設立的跨部門工作小組，於年內的工作進度良好。工作小組由機電署擔當領導角色，成員包括消防處及勞工處。工作小組已向空調和製冷業界、物業管理公司、地產發展商協會及其他持份者發出聯署信函，建議不應於工商樓宇的大型空調系統中使用易燃雪種。信中亦建議易燃雪種不應用於空調系統的更新工程。

我們亦協助使用輕度易燃雪種的家用冷氣製造商或進口商，確保其產品在市場上安全使用。我們就警告標籤、雪種量限制、樓宇建築面積及安裝高度限制等事宜，以及技術和銷售人員的培訓，向有關製造商或進口商提供建議。

此外，我們加強了宣傳工作，以提升公眾對使用易燃雪種的意識，包括該等電氣產品的潛在風險、製造商規定的安裝限制，以及聘請受訓技術人員對產品進行安全的安裝和保養工作的重要性。

年內，為政府和業界提供平台就推廣易燃雪種的安全交流意見和合作的政府與業界聯絡小組，已表示會支持由業界及職業訓練局為從業員舉辦有關處理環保雪種(尤其是易燃雪種)的培訓課程。

### 未來一年

來年，我們將繼續擴展氣體裝置定期安全檢查計劃至更多屋邨的「長期沒接受安全檢查服務」用戶。另外，我們會制訂多項石油氣車輛安全措施，並提醒煤氣公司及石油氣業界檢驗和更換老化設備。最後，我們會繼續密切注意冷氣機易燃雪種的發展和使用情況，並制訂更有效的安全指引及預防措施。

### Monitoring of Flammable Refrigerants

The Inter-departmental Co-ordination Group, which monitors the development of eco-friendly flammable refrigerants and their handling, continued to make good progress during the year. With EMSD taking a leading role, members of the Co-ordination Group including FSD and the Labour Department issued a joint letter to the air-conditioning and refrigeration trade, property management companies, estate developer associations and other stakeholders, recommending that flammable refrigerants should not be used in large-scale air-conditioning systems at commercial and industrial premises. The letter also recommended that flammable refrigerants should not be used in the retrofitting works of air-conditioning systems.

We also helped manufacturers or importers of household air-conditioners that use mildly flammable refrigerants to ensure their products are used safely in the market. We advised them on how to address issues such as warning labels, refrigerant charge limitations, floor area and installation height restrictions, and training for technicians and sales staff.

In addition, we stepped up publicity to enhance public awareness of the potential risks of electrical products using flammable refrigerants, the installation restrictions specified by manufacturers and the importance of hiring trained technicians to carry out safe installation and maintenance of products.

During the year, the Government and Trade Liaison Group, a platform for the Government and trade to exchange views and collaborate in promoting the safety of flammable refrigerants, indicated it would support training courses by the trade and the VTC for practitioners on handling eco-friendly refrigerants, especially flammable refrigerants.

### The Year Ahead

In the year ahead, we will continue to extend RSI to LTNS households in more housing estates, develop various LPG vehicle safety initiatives and remind both HKGC and the LPG trade to review and upgrade their aged assets. We will keep an eye on the development and use of flammable refrigerants in air-conditioning units and also formulate more effective safety guidelines and preventive measures.

## 從構思到實踐 — 示範車輛維修工場

### From Concept to Reality — A Sample Vehicle Maintenance Workshop for the Trade

車輛維修註冊組工程師吳玉華，帶領團隊於機電署總部大樓設置了一間極受歡迎的示範車輛維修工場，讓業界對「車輛維修工場自願註冊計劃」的要求有更深入了解。

Alice Ng Yuk-wa, an engineer at the Vehicle Maintenance Registration Unit, led a team to set up a highly popular sample vehicle maintenance workshop at EMSD Headquarters that help the trade better understand the requirements of the Voluntary Registration Scheme for Vehicle Maintenance Workshops.



為提升車輛維修業的服務水平及專業形象，機電署於2015年推出「車輛維修工場自願註冊計劃」(下稱「計劃」)。

2017年，我們就該計劃向業界進行意見調查時，發現部分小型維修工場的東主認為自己缺乏足夠的設備或能力，難以符合註冊計劃和《車輛維修工場實務指引》的要求，因此未有申請註冊。

機電署工程師吳玉華說：「香港九成以上的車輛維修工場屬小型工場，所以我們必須尋求既創新又實際的方案，以釋除他們的疑慮。」

為此，玉華的團隊在機電署總部大樓設置了一間示範車輛維修工場，讓業界更了解計劃的基本註冊要求。同時，我們還與業界協作，舉辦了一系列講座及示範工場參觀活動。玉華說：「參加者的反應非常積極，多位業內人士更表示示範工場的佈置與他們的工場相若。參觀活動提供有效平台，讓我們與業界保持更緊密的聯繫。」

除了參觀示範工場外，參加者還有機會參觀機電署的車輛維修工場，令他們認識到機電署用以為政府車隊提供維修、保養和測試的裝置，以及相關的良好作業方式。

玉華解釋：「我們的目標不僅是為推廣計劃，更希望促成業界進一步提升服務水平。目前，約有2 000間車輛維修工場已於該計劃下註冊。」

由於參加者反應積極，機電署決定進一步宣傳該計劃，致力推廣至更多受眾，特別是吸引更多年輕人入行。為達成這目標，玉華表示正製作虛擬實景(VR)示範車輛維修工場。

To enhance service standards and the professional image of the vehicle maintenance trade, EMSD launched the VRSVMW in 2015.

In a trade survey on the VRSVMW in 2017, it was discovered that some small workshop owners felt they did not have the equipment or the ability to meet the registration requirements and the Practice Guidelines for Vehicle Maintenance Workshops. They therefore hesitated to apply for registration.

Alice Ng Yuk-wa, an engineer at EMSD, said, "More than 90% of vehicle maintenance workshops in Hong Kong are small, so we had to think of an innovative but practical way to address their concerns."

Alice's team then established a sample workshop at the EMSD Headquarters so that the trade could understand the basic requirements for registration under the Scheme. A series of talks and visits to the sample workshop were also organised in collaboration with trade associations. "The feedback from the visitors was very positive," Alice said. "Many in the trade said that the sample workshop was almost the same as theirs. It was a very useful platform for us to connect more closely with the trade."

In addition to visiting the sample workshop, visitors had the opportunity to tour the EMSD vehicle maintenance workshops, where they could appreciate the set-up for vehicle maintenance, repair and testing as well as the good practices of EMSD's maintenance services for the government fleet.

"Our aim was not only to promote the VRSVMW, but also to assist the trade in upgrading their services to a new level of excellence," explained Alice. "Now, we have around 2 000 workshops registered under the Scheme."

In response to the positive feedback from the visitors, EMSD decided to further promote the Scheme to reach a wider audience and, in particular, to attract more young people to join the trade. Alice said they are now developing a Virtual Reality (VR) sample vehicle maintenance workshop to meet this objective.



## 保障公眾安全 Protecting Public Safety

### 機械安全 MECHANICAL SAFETY

#### 加強升降機和自動梯安全

2017/18年度的優先事項，是回應公眾對升降機及自動梯安全的關注，以及嚴格檢視如何進一步提高升降機和自動梯的安全。

2017年3月下旬，朗豪坊發生了一宗自動梯事故，一部上行的自動梯突然停止，並朝反方向運行，造成18名乘客受傷。2017年6月，我們發布了該事故的技术調查報告，指出事故成因是主驅動鏈和驅動鏈斷裂裝置出現雙重失效，導致無法啟動附加制動器以制停自動梯。

隨後，負責保養朗豪坊自動梯的註冊承辦商被控以未能妥善執行保養工作，法院於2018年3月判定其罪名成立，並處以罰款320 000元。另外，負責檢驗和維修該自動梯的註冊工程師及註冊工程人員，亦被裁定疏忽職守，被暫時吊銷註冊。暫時吊銷註冊期屆滿後，涉事註冊工程師未有為其已屆滿的註冊申請續牌。至於該註冊工程人員，機電署根據《升降機及自動梯條例》，認為他並非根據條例有關條文獲繼續註冊的適當人選，最終於2018年7月取消其註冊。

荃灣海灣花園的升降機事故發生於2018年4月，雖然在2017/18年度的報告期外，但仍值得一提。該事故導致兩名乘客受傷，引起公眾對舊式升降機安全的關注。該事故的技术調查報告已於2018年7月發表，揭示升降機制動系統的一塊組件磨損，碎屑從中剝落，使制動器無法暢順運作，導致機廂被對重裝置向上拉，直到與井道頂板碰撞才停下。

#### 為舊式升降機的安全而制訂的短、中及稍為遠期措施

鑑於2018年所發生的升降機事故，機電署即時要求所有註冊承辦商檢查轄下與涉事升降機同一品牌的升降機，並加強巡查，以確保升降機安全。

與此同時，我們已與發展局積極制訂短、中及稍為遠期措施，以提升舊式升降機的安全水平。

#### Stepping up Lift and Escalator Safety

One of our priorities in 2017/18 was to address public concerns about lift and escalator safety and to critically review how lift and escalator safety could be further enhanced.

In June 2017, we released our technical investigation report on the Langham Place escalator incident of late March 2017, in which an ascending escalator came to a sudden stop and reversed direction, injuring 18 passengers. The investigation found that the incident was caused by the double failure of the main drive chain and the broken chain safety device, leading to the inactivation of the auxiliary brake that should have stopped the escalator.

In a subsequent development, the registered contractor responsible for maintenance of the Langham Place escalator pleaded guilty to charges of failing to carry out maintenance work properly and was fined \$320 000 by the court in March 2018. Separately, the registered engineer and registered worker responsible for examining and maintaining that escalator were found negligent in performing the escalator works. The registration of the engineer and the worker was suspended. Following the suspension period, the registered engineer did not renew his registration which was due for renewal. As regards the registered worker, his registration was eventually cancelled by EMSD in July 2018 as he was, according to the Lifts and Escalators Ordinance, considered not fit and proper to continue to be registered under the Ordinance.

The lift incident happened at Waterside Plaza in Tsuen Wan in April 2018, although outside our 2017/18 review period, is worth mentioning. The incident caused injury to two passengers and raised public concerns about the safety of aged lifts. Our technical investigation report on the incident, released in July 2018, revealed that the wearing down of a component in the brake system of the lift had generated considerable debris, which hindered the smooth functioning of the brake and resulted in the lift being pulled upwards by the counterweight until it collided with the lift shaft ceiling.

#### Short, Medium and Medium to Long-term Measures for the safety of Aged Lifts

Following the lift incidents that occurred in 2018, EMSD immediately required all registered contractors to promptly examine all lifts of the same brand under their maintenance and step up inspections with a view to ensuring lift safety.

Concurrently, we have been actively formulating short-, medium- and medium-to-long-term measures together with the Development Bureau to enhance the safety of aged lifts.



去年9月的「優質樓宇管理週2017」，由水務署聯同機電署及多個政府部門舉辦，是本港首次舉辦的同類活動。管理週旨在提高公眾對妥善管理樓宇的意識，並推廣本港樓宇管理的良好作業方法。

The first event of its kind, Building Management Week was organised by the Water Supplies Department in collaboration with various government departments including EMSD in September 2017. The event aimed to raise public awareness of proper building management and promote good building management practices in Hong Kong.

短期措施包括加強升降機維修的檢查和監管，特別檢查可能會影響升降機安全操作的組件。所有升降機負責人及註冊承辦商必須加強保養尚未優化的舊式升降機，尤其是會影響升降機安全運作的組件。

中期措施參考了「樓宇更新大行動2.0」及「消防安全改善工程資助計劃」，研究撥款資助有需要業主的可行性，鼓勵他們加快優化升降機工程。至於稍為遠期的措施，我們正研究分階段推行強制性優化升降機工程，並參考海外國家的相關經驗，以及考慮社區及業界的承受力。

我們明白，足夠的人手及培訓，對升降機和自動梯的安全至關重要。為此，我們一直與業界、職業訓練局、建造業議會及其他培訓機構緊密合作，確保有足夠的培訓和宣傳，從而吸納新人並加以培訓，以滿足保養及優化工程的持續需求。

#### 推動在升降機及自動梯培訓中使用科技

為響應行政長官有關政府創新的呼籲，我們正與職業訓練局、電梯業協會及建造業議會磋商，為業界制訂一套利用虛擬實境(VR)的培訓計劃。首項工作是由職業訓練局及電梯業協會提供資源及支援，以製作VR培訓影片。我們在過程中繼續擔當推動角色，期間我們察悉有業界人士建議把VR培訓納入註冊升降機工程人員的訓練要求。

此外，我們亦與職業訓練局、電梯業協會及其他行業協會合作，製作一系列宣傳短片，鼓勵年輕人投身升降機及自動梯行業。影片概述業界、行業前景及對社區的重要性，並已上傳至機電署網站和社交媒體。

Short-term measures include stepping up surveillance checks of lift maintenance and, in particular, examining components that may affect the safe operation of lifts. All Responsible Persons (RPs) and registered contractors will be required to step up the maintenance of aged lifts that have not yet been modernised, especially those components that may affect the safe operation of lifts.

Medium-term measures involve looking into the feasibility of allocating funds to subsidise owners in need and encouraging them to speed up lift modernisation works, with reference to the ongoing Operation Building Bright 2.0 and Fire Safety Improvement Works Subsidy Scheme. For medium-to-long-term measures, we are studying the feasibility of mandating lift modernisation works in phases, taking into account the relevant experiences of overseas countries as well as the likely impact on the community and the trade.

We are mindful that adequate, well-trained manpower in the lift and escalator trade is essential to safety. To this end, we have been working closely with the industry, the Vocational Training Council (VTC), the Construction Industry Council (CIC) and other training institutes to ensure that adequate training and publicity programmes are in place in order to attract and train new workers and satisfy the demand for ongoing maintenance and modernisation works.

#### Facilitating the Use of Technology for Lift and Escalator Training

In response to the Chief Executive's call for innovation in the Government, we have been in talks with the VTC, Lift and Escalator Contractors Association (LECA) and CIC to develop a VR training programme for the trade. The first initiative will be to produce VR training videos with resources and support from both VTC and LECA. While continuing to play a facilitating role in this process, we have taken note of one of the trade's suggestions to include VR training as a training requirement for registered lift workers.

Also in conjunction with VTC, LECA and other trade associations, we produced a series of four promotional videos encouraging young people to enter the lift and escalator trade. Available on the EMSD website and social media, the videos provide an overview of the trade, career prospects and its importance to the community.



## 保障公眾安全 Protecting Public Safety

### 其他升降機及自動梯安全活動

2011年，機電署推出《優化升降機指引》，引入措施以提升舊式升降機的安全和鼓勵加裝升降機保護裝置。自指引推出以來，我們一直與業界緊密溝通，推廣升降機優化工程，如發信提醒升降機負責人為舊式升降機開展優化工程。我們將會持續與升降機負責人加強溝通。

優化自動梯是我們本年度的另一工作焦點。我們繼續呼籲自動梯負責人及業主為舊式自動梯開展優化工程，並持續推廣2016年出版的《優化自動梯指引》。

為提高升降機工程的安全水平及質素，我們根據最新的安全及工作要求、有關升降機和自動梯工程的新本地要求，以及針對舊式升降機的新短期措施，修訂了《升降機工程及自動梯工程實務守則》。新版《實務守則》於2018年8月出版，並將於2019年2月1日起全面生效。

### 機動遊戲機安全

與往年一樣，我們嚴格審核機動遊戲機的設計，並持續監察其營運和保養情況，確保於2017年12月至2018年2月舉行的歐陸嘉年華，所有機動遊戲機都能安全操作。我們在時間緊迫的情況下完成審批程序，好讓公眾能及時享受機動遊戲機，歡度一年一度的佳節。

2017年8月，位於中環海濱的香港摩天輪因營運合約屆滿而暫停開放。新營運商接管後於2017年12月重新開放摩天輪。儘管摩天輪一直運作暢順，從沒事故發生，但我們作為規管者亦一如以往，在授權摩天輪重開前，堅持仔細完成審批程序。

### Other Lift and Escalator Safety Initiatives

In 2011, EMSD promulgated the *Guidelines for Modernising Existing Lifts*, introducing measures to enhance the safety of aged lifts and recommending retrofitting of safety devices. Since then, we have been communicating closely with the trade to promote lift modernisation works, such as sending letters to remind RPs of aged lifts to undertake lift modernisation works. More communication with RPs will take place on an ongoing basis.

Escalator modernisation was another focus of our efforts during the year, as we continued to urge RPs and property owners to implement modernisation works for aged escalators. We also continued to promote our *Guidelines for Modernising of Existing Escalators* published in 2016.

For improving the safety and quality of lift works, we revised the Code of Practice for Lift Works and Escalator Works based on the latest safety and working requirements, new local requirements related to lift works and escalator works, as well as new short-term measures for aged lifts. The new edition of the Code of Practice was issued in August 2018 and will be fully effective from 1 February 2019.

### Amusement Ride Safety

As in past years, we ensured the safe operation of the many amusement rides at the Great European Carnival held from December 2017 to February 2018 by stringently vetting the design of the rides and continuously monitoring their operation and maintenance. The vetting and approval process was completed against a tight schedule in time for the public to enjoy the rides during the annual festive season.

The Hong Kong Observation Wheel at the Central Harbourfront was temporarily closed in August 2017 when the former operator's lease expired and re-opened in December 2017 when it was taken over by a new operator. Despite the fact the Ferris wheel had been operating smoothly since its opening without incident, as the regulator we insisted on conducting a thorough vetting and approval process prior to authorising the re-opening of the ride.

香港摩天輪由於營運合約屆滿，曾於2017年8月暫停開放。新營運商經機電署為摩天輪進行仔細審核並發出批准後，已於2017年12月重開系統。

The Hong Kong Observation Wheel underwent a thorough vetting and approval process by EMSD before it was re-opened by the new operator in December 2017. The system was temporarily closed when the former operator's lease expired in August 2017.

機電署在時間緊迫的情況下，為中環海濱「歐陸嘉年華」的機動遊戲機完成審批程序，讓嘉年華趕及在一年一度的佳節開放。

The Great European Carnival 2017 at the Central Harbourfront was opened in time for the public to enjoy the annual festivities. The EMSD completed the vetting and approval process for the rides against a tight schedule.



我們的員工正巡查「越礦飛車」上的虛擬實境裝置，以確保安全。該裝置能讓乘客置身於360度模擬場景，享受親歷其境般的虛擬體驗。

Our staff inspecting the VR device on the Mine Train to ensure its safety. The device simulates a 360-degree environment for riders to interact with their surroundings for a fully-immersive virtual experience.

海洋公園為「越礦飛車」增設了虛擬實境裝置，經機電署就有關的改動進行審批後，這機動遊戲機已於2017年12月重開。

Ocean Park added a VR device to its Mine Train, which was re-opened in December 2017 after EMSD approved the alteration of the amusement ride.

年內，海洋公園為「越礦飛車」增設虛擬實境(VR)裝置。我們的角色是審批該機動遊戲機的改動申請，並於2017年12月重新開放後監察運作過程，確保安全。VR裝置讓乘客置身於360度的模擬場景，享受互動和親臨其境的虛擬體驗。我們預料，使用VR和其他機動遊戲機新技術的趨勢將會上升，我們會增進規管範疇的相應專業知識，以配合科技發展趨勢。

2017年8月，香港迪士尼樂園關閉了「巴斯光年星際歷險」，以騰出空間設置新的遊樂設施。我們將繼續審批和監察新機動遊戲的安全，並與迪士尼樂園就其擴展計劃的安全工作保持緊密聯繫。

### 未來一年

來年的首要工作之一，是全力實施上述各種提高升降機和自動梯安全的短期措施。對於中期及稍為遠期的升降機安全措施，我們正與發展局積極研究向有需要的樓宇業主提供經濟誘因，並提供適切的專業支援，鼓勵他們加快為其舊式升降機進行優化工程。相關資助計劃預計於2019年年初推出。此外，我們將訪問海外有關當局，了解他們在制訂和執行強制措施要求樓宇業主優化舊式升降機的經驗。

另一重點為修訂《升降機及自動梯設計及構造實務守則》。我們亦會致力全面推行「優質升降機服務認可計劃」，鼓勵更多私人樓宇的升降機負責人參與。

繼2017/18年度的註冊升降機承辦商及註冊升降機工程師註冊周期完結後，本輪註冊升降機工程人員的註冊將於2018年年底完成。

早前，《升降機及自動梯條例》的新監管措施已獲立法會通過，因此，某些註冊升降機/自動梯工程師及註冊升降機/自動梯工程人員的過渡註冊措施，如豁免特定要求等，已於2018年5月1日後停止。業界對加強註冊制度以提高業界整體水平的安排表示十分支持。

During the year, Ocean Park added a VR device to its Mine Train attraction. Our role was to vet and approve the alteration of the amusement ride and monitor its safe operation when it re-opened in December 2017. The VR device simulates a 360-degree environment with features that allow riders to interact with their surroundings and enjoy a fully-immersive virtual experience. We anticipate the trend in VR and other new technologies on amusement rides will increase, and we will build up our expertise in this regulatory area accordingly.

Hong Kong Disneyland closed the Buzz Lightyear ride in August 2017 to make way for a new attraction. We will continue to vet and monitor the safety of the new attraction and closely liaise with the theme park on the safety-related aspects of their expansion projects.

### The Year Ahead

A priority for next year will be to implement, with full force, the various short-term measures mentioned above to increase lift and escalator safety. For the medium- and medium-to-long-term lift safety enhancement measures, we are actively working with the Development Bureau to provide financial incentives and suitable professional support to building owners in need to expedite implementation of modernisation works for their aged lifts. The subsidy scheme is expected to be launched in early 2019. Additionally, we will visit relevant authorities in overseas countries to learn about their experiences in developing and enforcing mandatory measures for building owners to implement modernisation works for aged lifts.

Another focus will be to update the Code of Practice for Design and Construction of Lifts and Escalators. We will also work towards the full-scale implementation of the Quality Lift Service Recognition Scheme, so that more RPs for lifts of private buildings will participate.

Further to the completion of the registration cycle for registered lift contractors and registered lift engineers in 2017/18, the current round of registrations for registered lift workers will be completed by the end of 2018.

As a result of the new control measures under the Lifts and Escalators Ordinance introduced earlier and endorsed by the Legislative Council, certain transitory arrangements for the registration of registered lift/escalator engineers and registered lift/escalator workers, such as exemptions from specific requirements, ceased after 1 May 2018. The trade fully supports the move, which aims to strengthen the registration regime and raise the overall standards of the trade.





## 保障公眾安全 Protecting Public Safety

### 於「優質樓宇管理週2017」推廣優化升降機及自動梯 Promoting Lift and Escalator Modernisation at Building Management Week 2017

一般法例部工程師雷家浩參與了「優質樓宇管理週2017」的籌備工作，這也是首次由數個政府部門、包括機電署合辦的同類活動。他更借此機會，向與會者推廣現有升降機和自動梯的優化工作和相關指引。

Graham Lui, engineer at the General Legislation Division, helped organise Building Management Week 2017, the first event of its kind jointly organised by several government departments including EMSD. He also took the opportunity to promote the modernisation of existing lifts and escalators and the relevant guidelines.



2017年9月21日至24日舉行的「優質樓宇管理週2017」（「管理週2017」），是機電署與水務署、屋宇署、消防處、食物環境衛生署及民政事務總署首個合辦有關樓宇管理的活動。

「管理週2017」推出一連串以「樓宇管理要做好，齊來參與無難度」為主題的精彩活動，包括開幕典禮、工作坊、管理論壇、嘉年華及比賽，旨在提高公眾對妥善管理樓宇的意識，並促進香港樓宇管理的良好作業。

「管理週2017」的重頭戲之一是在2017年5月至8月期間舉行的「識管·惜樓宇」物業管理比賽，藉以鼓勵業主和物業管理機構持續改善樓宇管理工作，向居民宣揚優質樓宇管理的重要性，並嘉許表現優秀的樓宇管理團體。

正如擔任「管理週2017」籌委會成員家浩所說：「樓宇管理涉及多個範疇，包括維修保養、環境衛生、消防保安及大廈管理宣傳教育等，工作殊不簡單。要維持良好的居住環境，住戶與樓宇管理組織的合作，以及優質的日常管理工作至關重要。」

至於2017年9月23日舉行的管理論壇，機電署邀請了著名的政府官員、學者及業界領袖，討論有關樓宇管理的各個主題。「雖然籌備這次活動的挑戰很大，但我很高興看到參加者對管理論壇的積極反饋。管理論壇匯聚了數百名持份者，促進香港卓越的樓宇管理。」

機電署亦於「管理週2017」期間，透過展覽、工作坊及攤位遊戲，推廣機電安全。家浩說：「除了安全使用升降機和自動梯的訊息外，我們亦推廣機電署推出的優化升降機和自動梯指引，以協助升降機和自動梯的負責人透過優化措施，使其現有的升降機和自動梯，特別是那些舊式的，更安全、可靠及舒適。」

Building Management Week 2017 ("BMW 2017"), from 21 to 24 September 2017, was the first-ever event of its kind organised by EMSD in collaboration with the Water Supplies Department, Buildings Department, Fire Services Department, Food and Environmental Hygiene Department and Home Affairs Department.

Featuring an opening ceremony, workshops, symposium, carnival and competition under the theme "Quality Property Management, Let's Work Together", BMW 2017 was organised to enhance public awareness of proper building management and promote good building management practices in Hong Kong.

One of the pillar events of BMW 2017 was the Quality Management • Caring Buildings Property Management Competition, which took place from May to August 2017. The competition encouraged continuous improvement in building management among property owners and property management agencies, highlighted the importance of quality building management to building residents, and recognised outstanding building management organisations.

As one of the organising committee members of BMW 2017, Graham said, "Building management is never simple as it involves various aspects such as maintenance, environmental hygiene, fire safety, as well as promotion and education in building management. To maintain a good living environment, co-operation between residents and building management organisations, along with quality daily management routines, is absolutely essential."

For the Symposium on 23 September 2017, EMSD invited prominent government officials, scholars and trade leaders to discuss various topics on building management. "Although it was a great challenge to organise this event, I was delighted to see that the Symposium received positive feedback from participants. It brought together hundreds of relevant stakeholders and helped to promote excellence in building management in Hong Kong."

The EMSD also promoted electrical and mechanical safety via exhibition panels, workshops and game booths during BMW 2017. "Apart from the safe use of lifts and escalators, we promoted our guidelines on modernising existing lifts and escalators, which aimed at helping Responsible Persons for lifts and escalators implement modernisation solutions to make their existing lifts and escalators, particularly aged ones, safer, more reliable and comfortable," said Graham.

## 鐵路安全 RAILWAY SAFETY

### 新鐵路綫運作暢順

觀塘延綫及南港島綫（東段）已於2016年正式啟用。這兩條新鐵路綫運作順暢，無重大事故發生。我們今年另一重點為籌備工作，包括實施多項測試及巡查，為2018年9月廣深港高鐵香港段，以及2019年屯馬綫啟用做好準備。

鐵路科榮獲「公務員優質服務獎勵計劃2017」頒發的「部門合作獎」金獎，表揚機電署領導由五個政府部門組成的跨部門小組，「為新鐵路綫把關」。他們通力合作，全力以赴，為近年多條新鐵路綫順利啟用出一分力，因而獲得獎勵計劃的最高榮譽。頒獎典禮於2017年9月舉行，並由行政長官親自頒獎。

### New Lines Operating Smoothly

After the successful opening of the Kwun Tong Line Extension and the South Island Line (East) in 2016, the two new lines operated successfully in 2017/18 without any major incident. Another focus of our activities during the year was the preparatory work, including numerous tests and inspections, for the opening of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) scheduled for September 2018 and the opening of the Tuen Ma Line scheduled for 2019.

The Railways Branch was honoured to receive the Gold Prize of the Partnership Award under the Civil Branch Service Outstanding Service Award Scheme 2017 for its entry, "Safeguard our New Railway Lines". This top award recognised an inter-departmental team led by EMSD and comprising five other government departments for its efforts to open various new railway lines successfully in recent years. The award was presented by the Chief Executive at a ceremony in September 2017.



行政長官林鄭月娥女士親臨主持第27屆「國際鐵路安全議會」年度會議開幕禮。是次會議由機電署與港鐵公司合辦，於香港舉行。

The Chief Executive Mrs Carrie Lam officiated at the opening ceremony of the 27th annual conference of the International Railway Safety Council held in Hong Kong in October 2017, jointly organised by EMSD and MTRC.

### 「國際鐵路安全議會」會議在香港

我們於2017年10月22至27日舉辦了第27屆「國際鐵路安全議會」會議，為年內的重點活動。我們與香港鐵路有限公司合作（「港鐵」），並以「鐵路安全」為主題，「鐵路安全——創新及協作」舉辦一連六日的會議，吸引40個國家/地區超過300位代表參加，包括各地政府鐵路監管部門及政策制訂者、鐵路營運商、學者、鐵路業界專家及商界領袖。

會議高朋滿座，國家鐵路局局長及中國鐵路總公司的領導亦應邀出席，是內地官員首次參加此項全球盛事。會議由行政長官主禮，泰國交通部長及老撾工務及運輸部部長亦到場參與。機電署能在這高水準的國際論壇擔當東道主，讓全球代表分享鐵路安全知識和交流經驗，深感榮幸。

### IRSC Annual Conference in Hong Kong

A major achievement during the year was the highly successful 27th annual conference of the International Railway Safety Council (IRSC) held in Hong Kong 22-27 October 2017. Jointly organised by the Mass Transit Railway Corporation (MTRC) and EMSD under the theme "Railway Safety — Innovation and Collaboration", the six-day conference attracted more than 300 delegates from 40 countries/regions. They included railway regulators and policymakers from various governments, railway operators, academics, experts and business leaders from the railway industry.

One of the most noteworthy aspects of the conference was the attendance by the heads of the National Railway Administration of China and the China Railway — the first time that Mainland officials had taken part in this global event. Officiated by the Chief Executive, the conference was also attended by the Minister of Transport of Thailand and the Minister of Public Works and Transport of Laos. EMSD was delighted to play a role hosting this high-level international forum for sharing insights on railway safety and exchanging experiences.



## 保障公眾安全 Protecting Public Safety

我們亦借此機會，帶領各地代表參觀廣深港高鐵（香港段）位於石崗的列車停放處及廣州高鐵設施，讓他們親身了解中國高速鐵路的发展。

此外，我們亦於2018年3月在香港舉辦了第二十屆亞太鐵路大會，區內鐵路營運商、監管機構、行業領導及供應商聚首一堂，就鐵路技術及設備交流見解。大會吸引逾2,000多位參加者，鐵路科總工程師則獲邀擔任講者。

我們會繼續積極參與各大國際鐵路安全論壇，以鐵路安全監管機構的身分扮演促成者/推動者的角色。

We also took the opportunity to lead interested delegates on a visit to the Shek Kong Stabling Sidings of the XRL Lead in Hong Kong and high speed rail facilities in Guangzhou so they could gain a first-hand understanding of China's high speed rail development.

Another conference in Hong Kong, the 20th annual gathering of Asia Pacific Rail 2018, was held in March, when railway operators, regulators, industry leaders and suppliers in the region came together to exchange views on railway technology and equipment. The event was attended by over 2,000 participants, with a Chief Engineer from the Railways Branch as one of the speakers.

We will continue to play an active role in similar international railway safety forums in our capacity as the railway safety regulator and as a promoter/facilitator of cooperation where appropriate.



「國際鐵路安全議會」是次年會的特色之一，是「一帶一路論壇」。論壇講者包括部長級嘉賓，包括泰國運輸部部長 Arkhom Termpittayapaisith 先生（左）、老撾工務部及運輸部部長 Bounchanh Sinthavong 博士（中）。右邊為港鐵學院校長張少華先生。

A special feature of the IRSC conference was the Belt and Road Forum with ministerial level officials as speakers, including the Minister of Transport of Thailand Mr Arkhom Termpittayapaisith (left) and the Minister of Public Works and Transport of Laos Dr Bounchanh Sinthavong (centre). The President of the MTR Academy, Mr Morris Cheung is on the right.

### 加強輕鐵安全

年內，我們與港鐵緊密合作，監察各項輕鐵系統安全措施的實施情況，包括由地鐵公司在內部開發的綜合車速與位置監督系統。

由於輕鐵列車以人手操控，車長必須時刻觀察路面交通情況，不時與道路上的車輛及道路使用者擦身。車長的警覺性與態度對安全至關重要。近年輕鐵事故主要成因的分析顯示，車長的駕駛習慣有待改善。有見及此，我們要求港鐵方面提出解決方案，綜合車速與位置監督系統應運而生。

綜合車速與位置監督系統，結合全球定位系統及無線射頻識別技術，具有多種功能，如速度監控、道岔訊號警報、月台當值提示、列車距離監測等。我們會監察系統目前於其中一條輕鐵線的試行成效，並與港鐵繼續合作，在未來改善及更新系統版本，務求於所有輕鐵線使用。

### Light Rail Safety Stepped Up

During the year, we worked closely with MTRC to oversee its implementation of various measures for increasing safety on the Light Rail Transit (LRT) system, including the trial of a new Integrated Speed and Position Supervision (iSPS) system developed inhouse by MTRC.

As LRT trains are driven manually, train captains must constantly observe road traffic conditions and interact with vehicles and other road users. Their alertness and driving behaviour are critical to safety. Our analysis of the root causes of LRT incidents in recent years showed that there is room for improvement in driver behaviour, and we requested that MTRC propose solutions, which led to the development of the iSPS system.

The iSPS system, an integrated solution based on GPS and RFID technologies, has multiple functions such as speed supervision, turnout signal alerts, platform duty reminders and inter-vehicle distance monitoring. The system can also provide real-time alerts and reminders to train captains, thus helping to improve their driving behaviour and operational safety. A pilot iSPS system is now running on one LRT line, and we are monitoring its effectiveness. We will continue to work with MTRC on future enhanced versions of the iSPS system, with the aim of having it implemented on all LRT lines in due course.



港鐵沙中綫的啟德站已接近落成。站內的機電設施現正進行各種安全測試巡查，為沙中綫開通做好準備。

Kai Tak Station of the MTR Shatin Central Link is nearing completion. Its various E&M facilities are being tested and inspected for safety prior to commissioning of the new line.

機電署同事與港鐵公司人員，商討有關啟德車站機電設施安全巡查工作的進度。

An EMSD team carries out a safety inspection of the E&M facilities at Kai Tak Station.



### 定期審核安全系統

2017年的鐵路事故數字與去年相若，共86宗，主要由於設備故障及職員疏忽職守所引致。即使如此，身為監管機構，我們時刻尋找機會，務求改善情況。年內，我們開始與港鐵合作，定期全面及深入地審核資產管理系統和安全管理系統，不再像以往一樣，因事故才開展審核工作。

我們亦成立了新的工作小組，專門負責資產管理系統和安全管理系統的審核工作，辨識存在於兩個系統中的風險，為港鐵建議緩解措施。

### Regular Audit of Railway Safety Systems

The number of railway incidents due to equipment failure and staff behaviour in 2017 remained steady at 86 cases, but as the regulator we are constantly on the lookout for opportunities to make further improvements. During the year, we began working with MTRC on a more holistic and in-depth audit of both its Asset Management System (AMS) and Safety Management System (SMS) on a regular basis, rather than relying only on incident-based audits as in the past.

We are also setting up a new team dedicated to conducting these regular AMS and SMS audits in order to identify risks in both systems for MTRC's mitigation.

### 資產及系統升級

近年，港鐵採取了多項措施，以加強鐵路安全，如更換鐵道車輛及信號系統、供電系統及其他老化資產。我們的角色是確保更換計劃安全、合時及有效地執行，不會干擾正常的列車服務。

最近，港鐵為較舊的市區路線，如荃灣綫等，從原來的「固定區間」信號系統升級至「通訊為本列車控制」系統，更換工程將於2019年年中陸續完成。與現有系統相比，新的「通訊為本」系統利用固定標籤、轉速計和軌旁Wi-Fi接入點來計算及傳達列車之間的安全距離，使列車班次可以更為頻密，對列車服務需求不斷增長的香港至關重要。

### Asset and System Upgrades

Much has been done by MTRC in recent years to enhance the safety of existing railways, such as replacing rolling stock, the signalling system, power supply system and other ageing assets. Our role is to make sure that it implements the replacement programmes in a safe, timely and effective manner without disrupting normal train services.

A case in point is the upgrading of the existing fixed block signalling system to the moving block Communication Based Train Control (CBTC) system on older urban lines, such as the Tsuen Wan Line for which the replacement works will be completed in mid-2019. Compared with the existing system, the new CBTC signalling system makes use of stationary tags, tachometers and trackside Wi-Fi access points to calculate and communicate safe distances between trains and has the advantage of allowing a shorter headway. This will enable higher train frequencies on our railway network, which are essential to satisfying Hong Kong's ever-increasing demand for more frequent train services.



## 保障公眾安全 Protecting Public Safety

現有的港鐵市區綫，以及香港國際機場的新自動捷運系統，最終亦會轉用「通訊為本列車控制」系統。我們會監察更換及升級過程，確保高準則安全水平，特別側重於同時使用兩套信號系統的過渡期間。

年內，我們的同事亦忙於檢查和測試現有和新鐵路綫的新車輛。新車輛包括為多條路綫購入的93列青島中國四方列車、17列屯馬線長春鐵路列車、37列港鐵東鐵綫現代列車，以及30列川崎重工輕鐵列車。部分新列車已經順利投入服務。隨着老化的鐵路車輛退役，乘客將享受更舒適的港鐵之旅。

All existing MTR urban lines, as well as the existing and new Automatic People Mover (APM) systems at the Hong Kong International Airport, will eventually adopt the CBTC system. We will monitor the replacement and upgrading process to ensure a high level of safety, especially the integration of different signalling systems during the transition.

During the year, our colleagues were also busy inspecting and testing new rolling stock for existing and new lines. The new rolling stock includes 93 trains from CRRC Qingdao Sifang for various urban lines, 17 trains from Changchun Railway Vehicles for the Tuen Ma Line (TML), 37 trains from Hyundai Rotem for the East Rail Line, and 30 light rail trains from Kawasaki Heavy Industries for LRT. Some of the new trains are already in service and running smoothly. With the eventual replacement of all ageing rolling stock, passengers will enjoy a more comfortable train ride.



我們的同事及港鐵工程人員巡查香港國際機場的自動捷運系統的安全裝置。機場現有及未來新增的自動捷運系統，將會轉用「通訊為本列車控制」系統，讓列車班次可更頻密。

An EMSD colleague and MTR technical staff inspect the safety devices of the Automatic People Mover (APM) system at Hong Kong International Airport. Both existing and future APM systems will eventually adopt the Communication Based Train Control system to enable higher train frequencies on the APM network.

### 技術和安全的未來挑戰

為回應行政長官創新科技的施政重點，我們積極推廣使用新技術，提升鐵路安全水平。除了呼籲港鐵使用創作科技解決方案，達至更高的安全水平，我們亦與機電署新成立的創新辦公室合作，從初創企業中選取或能提高我們監管工作的合適創作科技解決方案。

然而，科技亦會為安全構成威脅，如黑客入侵、勒索軟件攻擊，以及Wi-Fi風險等。我們會與港鐵緊密合作，為鐵路網絡安全運行制訂所有必要的安全措施和系統。

### Technology and New Safety Challenges

In line with the Chief Executive's focus on innovation and technology (I&T), we have taken a more active role in promoting the use of new technology to enhance railway safety. Apart from urging MTRC to deploy I&T solutions to achieve greater safety, we will also work with EMSD's new Inno-Office to identify suitable I&T solutions from start-ups, which could help to enhance our regulatory work.

However, technology also poses new safety challenges, such as cyber security risks from hackers, ransomware attacks and Wi-Fi risks. We will work closely with MTRC to ensure that all necessary security measures and systems are in place for the safe operation of the railway network.



行政長官林鄭月娥女士於港鐵石崗列車停放處參觀高鐵路車「動感號」。廣深港高鐵路香港段於2018年9月通車後，「動感號」列車將正式投入載客服務。

The Chief Executive Mrs Carrie Lam at a preview of the high speed railway train, Vibrant Express, at the MTR Shek Kong Stabling Sidings. The train will start passenger services upon commissioning of the Guangzhou-Shenzhen-Hong Kong Express Rail Link Hong Kong Section in September 2018.

### 高鐵和沙中綫準備開幕

由於廣深港高鐵路(香港段)涉及中港雙方的列車及駕駛人員的跨境工作，我們需與國家鐵路局就安全監管工作機制、過境駕駛人員資格管理事宜等緊密聯繫。鐵路企業之間的營運安排、港鐵公司已與中國鐵路總公司達成共識。高鐵路於2018年下半年啟用，我們會繼續與內地相關單位合作，確保高鐵的營運安全達到高水平。

為準備2019年屯馬綫啟用，我們分別完成了馬鞍山綫列車四卡變八卡，以及西鐵綫七卡變八卡的改裝工程安全檢查。除了使馬鞍山綫的載客量增加一倍，更重要的是把整段馬鞍山綫及西鐵綫均以八卡列車模式操作，為連接至沙中綫的大圍至紅磡段做好準備。

### 未來一年

來年亦將是繁忙的一年。我們會在非常緊迫的時間內，奮力完成高鐵路及沙中綫最終測試和檢查工作，為通車啟用做好準備。與此同時，我們的同事會繼續監察港鐵在現有鐵路綫各個系統及資產更換及升級的工作，以及開展定期為資產管理系統及信號管理系統作深入審核。

如2014年鐵路發展策略所言，當高鐵路及沙中綫投入服務後，香港將踏入鐵路發展的新里程。這亦包括設計和建造七條新鐵路綫、延伸綫和車站，以滿足新市鎮發展和持續增長的人口需求。因此，我們將擴大鐵路科，包括新增11個公務員職位，應付不斷增加的工作量。我們亦會重整內部和重新部署，以確保知識和經驗能夠傳承。

至於區域和國際層面，機電工程署將繼續於各大鐵路會議中代表香港，如參加在2018年7月舉行的「新加坡國際交通大會暨展覽會」，以及在2018年10月於愛爾蘭舉行的「國際鐵路安全議會」。

### Getting Ready for XRL and SCL Opening

As XRL involves cross boundary coordination for train operation and driver management, we have been in close communication with the National Railway Administration on issues such as safety regulations and train driver qualifications. MTRC and China Railway also settled their operating agreement accordingly. When XRL is up and running later in 2018, we will continue to cooperate with our Mainland counterparts to ensure a high level of safety in XRL operations.

To get ready for the TML opening in 2019, we completed the safety inspection of the conversion of 4-car to 8-car trains on the Ma On Shan Line (MOL) and from 7-car to 8-car trains on the West Rail Line (WRL). This has doubled the carrying capacity of MOL and, more importantly, paved the way for 8-car train mode along the whole length of the TML connecting MOL and WRL to SCL. Our team also overcame the challenge of ensuring both MOL and WRL will operate safely and normally during the construction of the SCL, as well as the smooth integration of the existing and new signalling systems on different sections of the entire TML.

### The Year Ahead

The coming year will be another busy one as we strive to complete the final testing and inspection work for the opening of XRL and SCL against very tight timeframes. Concurrently, our colleagues will continue to monitor MTRC's work in replacing and upgrading various systems and assets on existing lines, as well as carry out regular in-depth AMS and SMS audits.

When both the XRL and SCL are up and running, Hong Kong will enter a new phase of railway development as outlined in the Railway Development Strategy 2014. This will entail the design and construction of seven new railway lines, extensions and stations to satisfy the needs of new urban development and a growing population. Accordingly, we will be expanding the Railways Branch, including the addition of an initial 11 new civil service posts, to handle the increased workload. We will also carry out some internal restructuring and re-deployment of duties to ensure continuity of knowledge and experience.

On a regional and international level, EMSD will continue to act as an ambassador for Hong Kong at major railway conferences, such as the Singapore International Transport Congress and Exhibition in July 2018 and the next IRSC annual conference in October 2018 in Ireland.



## 機電署如何協助贏取「金獎之最」 How EMSD Helped to Win the “Gold of the Gold”

機電署與另外五個政府部門攜手參加2017年公務員優質服務獎勵計劃，並贏得「部門合作獎」金獎。當時負責統籌參賽項目文件的鐵路科高級工程師何偉業認為，獎項是對整個參賽團隊以至機電署所有員工的肯定和嘉許。

EMSD joined hands with five other government departments to participate in the Civil Service Outstanding Service Award Scheme 2017 and won the Gold Prize in the Partnership Award. Chris Ho Wai-yip, senior engineer at the Railways Branch and co-ordinator of the joint-departmental submission, noted that the award served as recognition of and commendation for the efforts of the entire team and all EMSD staff.



當收到2017年公務員優質服務獎勵計劃的徵集邀請時，偉業的一眾上司鼓勵他們參加比賽，認為機電署的同事付出相當努力，確保西港島綫、觀塘延綫及南港島綫順利通車，非常值得嘉許。

由於新鐵路綫通車需要多個政府部門的合作和統籌，機電署遂決定參加「部門合作獎」，讓各方努力均獲肯定。偉業負責代表機電署及其他參與的政府部門，統籌以「為新鐵路綫把關」為題參加「部門合作獎」。

偉業表示，當我們準備幾條新鐵路綫通車時，在南港島綫遇上最大挑戰，因為這是一條設有無人駕駛列車的全新鐵路綫。身為鐵路督察，我們的職責不僅是測試列車及系統，還要識別和消除任何潛在危險，以保護乘客和工作人員的安全。

「就南港島綫而言，我們步行途經金鐘至海怡半島的隧道、高架橋及橋樑，檢查架空電纜、路軌、路軌旁的設備及疏散路徑。」偉業說：「我們更通宵工作多個晚上。」

該獎項的評審過程，同樣極具挑戰。六個月之後，我們終於收到通知，獲得夢寐以求的金獎。

「我們很高興贏得這個獎項。」偉業說：「這是對機電署所有員工的貢獻和成就的肯定，此獎可堪稱為獎勵計劃的『金中之金』。」

When the call went out inviting submissions for the Civil Service Outstanding Service Award Scheme 2017, Chris Ho's supervisors encouraged Chris's team to participate in this prestigious competition as it would recognise his team's painstaking efforts to ensure the smooth opening of the new West Island Line, Kwun Tong Line Extension and South Island Line.

As the opening of the new railway lines involved the co-operation and coordination of a number of government departments, EMSD decided to enter the Inter-departmental Partnership Award. Chris's responsibility was to coordinate the submission — “Safeguard our New Railway Lines” — for the Partnership Award on behalf of EMSD, as well as the other participating government departments.

When working on the railway openings, Chris said the South Island Line was the most challenging as it was all new and had fully automatic operation. The role of railway inspectors was not only to test the trains and systems but also to identify and eliminate any potential hazards for the protection of both passengers and employees.

“Regarding the South Island Line, we walked in the tunnel, viaduct and bridge from Admiralty to South Horizons to inspect the overhead line, rails, trackside equipment and evacuation pathways,” Chris said. “We worked overnight many times.”

The judging process for the award was almost as challenging, but after six months they eventually learned they had won the coveted gold prize.

“We were delighted to win the award,” said Chris, “as it recognises the contributions and achievements of all our staff at EMSD. It is truly the ‘gold of the gold’ of the awards scheme.”

## 與時間競賽：高鐵如期於 2018年9月投入客運服務

### Racing Against Time: Timely Opening the XRL for Passenger Services in September 2018

鐵路科高級工程師施培康(右二)與他的團隊，日以繼夜進行各種安全檢查，務求全港首條高速鐵路——廣深港高鐵路(香港段)——能如期開通。

Jason Sze Pui-hong, senior engineer at the Railways Branch (2nd right) with his team, raced against time to complete various safety inspections to ensure the timely opening of the new XRL, Hong Kong's first high speed railway.



廣深港高速鐵路香港段如期於9月通車，培康與他的團隊扮演了重要角色。

廣深港高速鐵路香港段為香港首條高速鐵路，項目當中充滿了挑戰。為確保新鐵路在投入客運服務前達至「安全良好」狀況，機電署鐵路科必須分階段完成與鐵路系統有關的安全測試工作。

作為香港監管鐵路安全的機構，我們必須緊貼測試和校驗的進度，以及就不同系統作相關的綜合測試。培康領導他的團隊負責進行高鐵路安全規管工作，在非常緊迫的時間內完成所需的檢測及評估。自2017年7月高鐵路列車進行動態測試起，培康及其團隊經常須日以繼夜地工作，以完成多項不同的檢測和處理「安全良好」評估所需的數以千頁計的報告和圖則。有賴團隊靈活應變，以配合各項檢測安排，有關任務方能以緊絀的資源和在極為緊迫的時間內完成。

高鐵路香港段為跨境鐵路，會有列車直達內地44個站點，接通國內高鐵路網絡，這樣亦增加了項目的複雜性。在高鐵路香港段測試和校驗期間，整個團隊需頻繁往返內地及嚴密監察港鐵公司驗證不同類型的內地列車與高鐵路香港段基礎設備的兼容性。

培康說：「因此，高鐵路項目與我過往負責過的其他鐵路線截然不同。」

作為負責統籌鐵路安全及保安範疇的政府部門，機電署一直與相關的政府部門就開通高鐵路香港段的安全評估緊密溝通，包括被列為現時世界最大型的地下高鐵路車站——香港西九龍站的運作要求，並趕及於2018年8月中向港鐵公司確認高鐵路香港段狀況「安全良好」，可以啟用，讓港鐵公司有足夠時間為投入客運服務做好準備。

儘管須克服重重挑戰，培康與他的團隊仍然堅定不移，完成繁重的測試工作，以及統籌不同政府部門進行所需的安全評估工作，使整條高鐵路香港段能於9月開通。

Jason and his team played an important part in the scheduled opening of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) in September 2018.

As the Hong Kong Section of XRL is Hong Kong's first high-speed rail, the project was full of challenges. The Railways Branch of EMSD had to complete the safety inspections for the railway systems in phases to ensure the new railway would be in a “safe and sound” condition before opening for passenger service.

As the railway safety regulator in Hong Kong, we had to keep track of the testing and commissioning progress, as well as to conduct integration tests for various systems. Jason led his team to carry out regulatory work on XRL safety, and complete the required inspections and assessments in a very tight timeframe. Since the start of the dynamic tests for the high-speed trains in July 2017, Jason and his team often had to work day and night in order to complete the numerous inspections and process thousands of pages of reports and drawings necessary for the “safe and sound” assessment. Without team members' flexibility and versatility in accommodating various inspection arrangements, this task would not have been completed with limited resources and the extremely tight deadlines.

What made the project even more complicated was the fact that XRL is a cross boundary railway line which connects with the national high-speed rail network, offering direct trains to 44 destinations in the Mainland. During the testing and commissioning stage of the Hong Kong Section of XRL, the entire team had to make frequent trips to the Mainland and closely monitor how MTRCL verified the compatibility of different types of Mainland trains with the infrastructure of the Hong Kong Section of XRL.

“This made the XRL project completely different from other rail lines I had worked on in the past,” said Jason.

As a government department responsible for co-ordinating the safety and security aspects of railway systems, EMSD had been communicating closely with relevant government departments on the safety assessments for the opening of the Hong Kong Section of XRL, including the operational requirements of Hong Kong West Kowloon Station, the largest underground high-speed railway station in the world, and managed to provide MTRCL with confirmation in mid-August 2018 that the Hong Kong Section of XRL was in a “safe and sound” condition and ready for opening so that MTRCL would have sufficient time to prepare for passenger service.

Despite the challenges that had to be overcome, the steadfast commitment of Jason and his team to completing the onerous testing work and co-ordinating the necessary safety assessments by different government departments made possible the opening of the entire Hong Kong Section of XRL in September 2018.



## 推廣能源效益及節能 Promoting Energy Efficiency and Conservation

### 亞太經濟合作組織能源工作小組會議

我們於2018年5月舉行亞太經濟合作組織能源工作小組第55次會議和相關會議，而年度亮點落於我們為此所作的最後準備工作。這是機電署第三次與環境局合作，在香港舉辦此會議。來自19個亞太經合組織成員經濟體的180多名代表，參加為期五天的會議，其中包括「亞太經合組織專家與青年對話」特別工作坊，聚集50多名年輕人與能源工作小組專家，就能源效益和節能方面分享其觀點及探討未來發展。

是次活動，使香港再度成為推動能源效益和節能的領導城市，並提升香港在能源議題上的國際形象。

### APEC Energy Working Group Meeting

A highlight of the year was our final preparation for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group and Associated Meetings (EWG55), which took place in May 2018. This was the third time that the meeting had been held with the Environment Bureau in Hong Kong by EMSD. More than 180 representatives from 19 APEC member economies attended the five-day conference, which included a special Youth Dialogue with APEC Experts workshop for over 50 youths on future developments in energy efficiency.

The event once again put Hong Kong on the map as a leading city in promoting energy efficiency and conservation and enhanced its international profile on energy issues.



在「亞太經合組織專家與青年對話」工作坊裏，來自香港的年青工程專才有機會與亞太經合組織的專家，就能源效益事宜交換意見。多位中學生亦參與其盛，與同場的專家和專才互動交流。

At the Youth Dialogue with APEC Experts workshop, young engineering professionals from Hong Kong had the opportunity to exchange views with APEC experts on energy efficiency matters. Secondary students also attended the workshop and interacted with the experts and professionals on stage.

### 強制性能源效益標籤計劃(強制標籤計劃) 第三階段

立法會於2018年3月通過《能源效益(產品標籤)條例》修訂建議，令強制性能源效益標籤計劃第三階段順利推行。第三階段把涵蓋範圍擴大，新增三種電器，包括電視機、儲水式電熱水器及電磁爐。現行計劃的涵蓋範圍亦會擴大，包括具供暖功能的空調機，以及額定洗衣量為7至10公斤的洗衣機。

### Third Phase of the Mandatory Energy Efficiency Labelling Scheme

The Legislative Council passed the proposed amendments to the Energy Efficiency (Labelling of Products) Ordinance in March 2018, making it possible to launch the third phase of the Mandatory Energy Efficiency Labelling Scheme (MEELS). The third phase extended the coverage of MEELS to three additional types of electrical products, namely televisions, storage-type electric water heaters and induction cookers. It also expanded the existing scope of MEELS covering room air-conditioners to include those with heating functions, as well as washing machines with rated washing capacities between 7 kg and 10 kg.

強制標籤計劃第三階段於2018年6月1日生效，全面實施前設有18個月寬限期。預計新階段能每年節省1.5億度電以及減少排放105 000公噸二氧化碳。強制性標籤計劃三個階段合共佔香港住宅類別每年電力消耗總量約70%。

如去年年報所述，我們察覺到把強制標籤計劃的涵蓋範圍擴展至家用燃氣設備的節能潛力。近年越來越受歡迎的發光二極管燈，目前在自願性能源效益標籤計劃的涵蓋範圍內，如能納入強制性能源效益標籤計劃內，節能效果將更加顯著。我們目前正與業界商討，以期將發光二極管燈和家用燃氣設備納入強制標籤計劃第四階段內。同時，我們鼓勵發光二極管燈製造商，盡早採用國際電工委員會標準，為強制標籤計劃將來可能實施的規定做好準備。

The third phase of MEELS took effect on 1 June 2018, followed by a grace period of 18 months before full implementation. The new phase is expected to bring about energy savings of 150 GWh and a reduction of 105 000 tonnes of carbon emissions per year. The three phases of MEELS together will account for about 70% of the total annual electricity consumption in Hong Kong's residential sector.

As mentioned last year, we see great energy saving potential with the extension of MEELS to cover domestic gas appliances. LED lights, increasingly popular in recent years and currently under the Voluntary Energy Efficiency Labelling Scheme, will also generate significant energy savings if covered by MEELS. We are now talking to the trade with a view to incorporating both LED lights and domestic gas appliances into the proposed fourth phase of MEELS. We also encouraged manufacturers of LED lights to adopt International Electrotechnical Commission standards in advance of future MEELS requirements.



機電署同事在商舖巡查電氣產品，確保產品的能源效益標籤上的資料正確無誤，符合法例規定。  
EMSD colleagues inspecting electrical products in retail shops, ensuring proper energy labels are affixed with accurate information as required by the law.

強制性能源效益標籤計劃第三階段在2018年6月1日生效，電磁爐是計劃內新涵蓋的三種電氣產品之一。  
Phase 3 of the Mandatory Energy Efficiency Labelling Scheme (MEELS) took effect on 1 June 2018. Induction cookers are one of the three additional types of electrical products covered in Phase 3 of MEELS.



## 推廣能源效益及節能 Promoting Energy Efficiency and Conservation



環境局局長黃錦星先生主持「慳神有計大比拼2017」的啟動禮。這比賽已發展為一大型慳電活動，獲得數百個機構及社會大眾積極支持。

Launching ceremony of the Energy Saving Championship Scheme 2017, officiated by the Secretary for the Environment Mr Wong Kam-sing. The Scheme has become a major energy saving initiative, with strong support from hundreds of organisations and the community.

### 全民節能

為應對氣候變化，政府致力推動香港低碳轉型，並採取一系列措施，多管齊下，以節省能源和減少排放。這些措施有助我們達成目標，即是與2005年相比，於2025年把能源強度降低40%，以及於2030年把碳強度降低65%至70%。要達成這些目標，公眾參與至為重要。

由環境局和機電署合辦的「全民節能」運動，已成為一項年度綜合計劃，包括各項節能約章、比賽及活動。通過是次運動和經驗分享，我們期望能提高公眾的節能意識，並和社會各界合作，達成香港能源和碳強度的減排目標。「全民節能2018」運動包括「節能約章2018」、「4Ts約章」及「慳神創科大比拼2018」等活動。

2012年推出的「節能約章」，鼓勵物業管理公司簽署承諾，在夏季把平均室內溫度維持於攝氏24至26度，以減少空調的耗電量。多年來，「約章」的範圍已擴展至最佳內務管理、採購節能電器，並鼓勵員工/學生參與採用節能措施。參與機構從2012年約100家，增至2018年3 600多家，證明了「約章」深受歡迎。

「4Ts約章」於2017年推出，專注四大原則，包括訂立設有「時間表」的節能「目標」、確保「透明度」報告節能成效，以及鼓勵同行「參與」以邁向節能目標。目前，已有超過1 300個場所簽署「4Ts約章」，銳意訂立可衡量的節能目標，為應對氣候變化出一分力。

### Energy Saving for All Campaign

To combat climate change, the Government is committed to promoting the low-carbon transformation of Hong Kong and has undertaken a series of multi-pronged measures to save energy and reduce emissions. This will enable us to move towards our targets of reducing energy intensity by 40% by 2025 and carbon intensity by 65% to 70% by 2030, as compared with the 2005 levels. To achieve these targets, public participation is essential.

The Energy Saving for All Campaign, jointly organised by the Environment Bureau and EMSD, has become an annual umbrella initiative comprising various energy saving charters, competitions and events. Through this campaign and experience sharing, we are aiming to raise public awareness of energy conservation and engage all sectors of the community to achieve Hong Kong's reduction targets in energy and carbon intensity. The Energy Saving for All 2018 Campaign comprises the Energy Saving Charter 2018, the 4Ts Charter and the Energy Saving Championship Scheme 2018, among others.

The Energy Saving Charter, introduced in 2012, requires signatories such as property management companies to maintain average indoor temperatures at their premises between 24 and 26 degrees Celsius during summer to reduce electricity consumption on air-conditioning. Over the years, the scope of the Charter has expanded to include best housekeeping practices, procurement of energy efficient appliances, and engagement of staff/students to adopt energy saving practices. The Charter has proved to be popular, as evidenced by the growing number of signatories from about 100 organisations in 2012 to over 3 600 in 2018.

The 4Ts Charter, launched in 2017, focuses on the 4Ts principles, i.e., setting an energy saving "Target" with a "Timeline", ensuring "Transparency" to track energy saving results, and encouraging people to work "Together" to achieve energy saving targets. More than 1 300 premises have signed on to the 4Ts Charter and indicated they are keen to work towards measurable energy saving targets that help to combat climate change.

年度節能比賽「慳神大比拼」自2016年推出以來，規模不斷擴大。從2016年的五大類別開始，目前已擴展至十大類別，包括商場、住宅大廈/屋苑、辦公室/商業/工業大廈、醫院、酒店、專上教育學院、辦公室、店鋪/餐廳/超級市場、非政府機構/社區設施，以及學校（幼稚園、小學及中學）。

「慳神有計大比拼2017」反應熱烈，參加機構從2016年287家增至合共317家。獲獎機構將於研討會分享及討論節能經驗，並會把其節能措施上載至「全民節能」網站施分享心得，帶領大眾共同節約能源。

### 淡水冷卻塔

2017/18年度，在提高建築物和基礎設施能源效益方面，我們的工作取得顯著進展。

本年度的主要成果，是我們以《建築物能源效益條例》的能源審核結果，向建築物業主及物業管理公司推廣淡水冷卻塔計劃。從風冷式轉換至水冷式空調，可以節省電力消耗約20%。不少業主採納我們的建議，採用淡水冷卻塔，我們對此感到高興。

我們還於2017年12月舉辦淡水冷卻塔技術研討會，超過600多人參與，包括行業顧問、承辦商、業主及物業管理公司代表。我們將繼續運用《建築物能源效益條例》能源審核所帶來的機會，游說更多業主轉用淡水冷卻塔。

The annual Energy Championship Scheme competition launched in 2016 has also grown considerably. Beginning with 5 categories in 2016, it now covers 10 categories including shopping malls, residential buildings/housing estates, office/commercial/industrial buildings, hospitals, hotels, post-secondary education institutions, offices, shops/restaurants/supermarkets, non-governmental organisation/community facilities, and schools (kindergartens, primary and secondary schools).

The Energy Saving Championship Scheme 2017 received enthusiastic responses, with 317 premises participating, up from 287 in 2016. Winning organisations will take the lead to promote energy saving by discussing their experiences at seminars and uploading their energy saving measures to the Energy Saving for All website for sharing.

### Fresh Water Cooling Towers

Our work to increase energy efficiency in buildings and infrastructure made substantial progress in 2017/18.

A key achievement during the year was our promotion of the Fresh Water Cooling Towers (FWCT) Scheme to building owners and property management companies, using the results of our energy audits carried out under the Buildings Energy Efficiency Ordinance (BEEO). The switch from air-cooled to water-cooled air-conditioning can save about 20% in electricity consumption, and we were delighted that many owners had taken our advice to adopt FWCT.

We also organised an FWCT technical forum in December 2017, attended by over 600 participants, including consultants, contractors, property owners and representatives of property management companies. We will continue to leverage the opportunity arising from BEEO energy audits to persuade more building owners to switch to FWCT.



「慳神有計大比拼2017」啟動禮於2017年5月假日塘大本型舉行，出席者包括來自各參與機構的數百位嘉賓、學生和市民，反應熱烈。

The Launching ceremony of the Energy Saving Championship Scheme 2017 in May 2017 was well attended by hundreds of guests from participating organisations, students and members of the public at Domain Mall in Yau Tong.



## 推廣能源效益及節能 Promoting Energy Efficiency and Conservation

### 建築物能源效益註冊計劃

香港建築物能源效益註冊計劃(註冊計劃)是機電署於1998年推出的自願計劃，旨在鼓勵建築物擁有人及物業管理公司提高建築物的能源效益。《建築物能源效益條例》現已實施，我們一直協助更多建築物擁有人參與註冊計劃，以及提升其建築物能源效益表現至超越《建築物能源效益條例》的要求。

自2018年1月1日起，能源表現高於《建築物能源效益條例》最低法定要求的各類新建及現有建築物/處所，以及獲綠建環評認證或其他國際認可建築環境評估評級的建築物/處所，可透過提交簡單表格，申請加入註冊計劃。另一新計劃則鼓勵建築物擁有人以非經常開支採購符合條件的能源效益建築物裝置，包括照明裝置、空調裝置、電力裝置及升降機和自動梯裝置，便有資格獲更佳的稅務優惠。

### Energy Efficiency Registration Scheme for Buildings

The Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB) is a voluntary scheme introduced by EMSD in 1998 that encourages building owners and property management companies to enhance energy efficiency in their buildings. Now that BEEO is in place, we have been helping more building owners to participate in HKEERSB and increase their buildings' energy efficiency performance beyond BEEO requirements.

With effect from 1 January 2018, all types of new and existing buildings/premises that have achieved energy performance above the minimum statutory requirements under BEEO, as well as buildings/premises that have obtained BEAM Plus certification or other internationally-recognised building environmental assessment ratings, may apply to join HKEERSB by submitting a simple form. In another new incentive programme, building owners who have made capital expenditures to procure eligible energy efficient building installations, including lighting installations, air-conditioning installations, electrical installations and lift and escalator installations, may be eligible for an enhanced tax incentive.



機電署於2017年11月榮獲香港顧問工程師協會首屆年獎的「整體最佳大獎」，以表揚我們在啟德發展區區域供冷系統鋪設海底管道方面的工作。獎項由發展局常任秘書長(工務)韓志強先生頒發。

EMSD received the "Overall Best Award" in the inaugural Annual Awards of the Association of Consulting Engineers of Hong Kong in November 2017 in recognition of our work in laying the subsea pipelines for the District Cooling System (DCS) at Kai Tak Development. The Award was presented by the Permanent Secretary for Development (Works), Mr Hon Chi-keung.



### 《建築物能源效益條例》的修訂

根據《建築物能源效益條例》的規定，商業建築的首次能源審核已大致完成。截至目前，香港已有超過800幢建築物/裝置及7300個大型翻新工程，符合《建築物能源效益守則》的規定。

機電署亦剛剛完成《建築物能源效益守則》和《能源審核守則》的第二次全面檢討及在2018年11月刊憲，最新版本將於2019年全面生效。

### Update of the Buildings Energy Efficiency Ordinance

The first energy audit for commercial buildings as required under the BEEO was substantially completed. To date, over 800 buildings/installations and 7 300 major renovation works in Hong Kong have been found compliant with the requirements of the Building Energy Code under BEEO.

EMSD has just completed the second comprehensive review of the Building Energy Code and the Energy Audit Code. With the gazetting of this latest edition in November 2018, it will take full effect in 2019.

### 發展區域供冷系統

啟德發展區的區域供冷系統於2017年5月開始為機電署總部大樓供應冷凍水，是該項目又一里程碑。區域供冷系統亦於2017年9月開始為香港兒童醫院供應冷凍水，為醫院開幕做好準備。

此外，區域供冷系統將為港鐵沙中綫即將落成的宋皇臺站供應冷凍水，使用區域供冷系統的建築物將再添一員，目前用戶包括啟德郵輪碼頭、晴朗商場、工業貿易大樓、兩所學校、機電署總部、香港兒童醫院及啟德站。為滿足啟德發展的未來需求，我們目前正計劃興建另一個區域供冷系統，補充現有區域供冷系統(設有南、北廠)的不足。

在2025年全面竣工後，啟德發展區目前的區域供冷系統將連接約50幢樓宇，每年可節省約8500萬度電，相當於每年減少59500公噸二氧化碳排放量。使用區域供冷系統的建築物的業主可享受較低的安裝成本，亦可幫助減輕熱島效應，並減少傳統空調系統的噪音及振動。

政府正考慮於其他新發展區，包括東涌新市鎮擴展及古洞北等地，提供類似的區域供冷系統。機電署將再次負責有關規劃和實施新的區域供冷系統項目，以及未來的運作和保養工作。

### Development of the District Cooling System

The District Cooling System (DCS) at Kai Tak Development began supplying chilled water to the EMSD Headquarters Building in May 2017, another milestone in the project. The DCS also began supplying chilled water to the Hong Kong Children's Hospital (HKCH) in September 2017 in preparation for its opening.

What's more, the DCS will supply chilled water to the future Sung Wong Toi Station of the MTR Shatin to Central Link. This station adds to DCS's portfolio of existing customers, which includes Kai Tak Cruise Terminal, Ching Long Shopping Centre, Trade and Industry Tower, two schools, EMSD Headquarters, HKCH and Kai Tak Station. To meet future demand at Kai Tak Development, we are now planning to build an additional DCS to complement the existing DCS with North and South Plants.

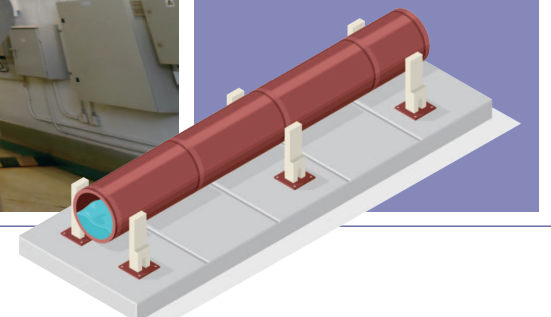
Upon its full completion in 2025, the existing DCS at Kai Tak Development will be connected to about 50 buildings to achieve estimated energy savings of 85 million kWh every year, equivalent to a yearly reduction of 59 500 tonnes of carbon dioxide emissions. Building owners who use the DCS can also enjoy lower installation costs, mitigate the heat island effect and eliminate the noise and vibration associated with conventional air-conditioning systems.

The Government is considering similar DCS systems in the new development areas, including the Tung Chung New Town Extension and Kwu Tung North. EMSD will again take on the planning and implementation of the new DCS projects and their future operation and maintenance.



員工正檢查啟德發展區區域供冷系統兩個製冷廠房之一的冷凍水管。區域供冷系統由2017年5月起為機電署總部大樓供應冷凍水，並由2017年9月開始為香港兒童醫院供應冷凍水，為醫院開幕做好準備。

Staff members inspect the chilled water pipes inside one of the two Chiller plants of the DCS at Kai Tak Development. The DCS began supplying chilled water to EMSD Headquarters Building in May 2017 and to the HKCH in September 2017 in preparation for its opening.





## 推廣能源效益及節能 Promoting Energy Efficiency and Conservation

### 區域供冷系統首個開放日

區域供冷系統為富前瞻意義的能源效益基建項目，對社區有很多益處。為向鄰近社區的居民介紹區域供冷系統，我們於2018年5月舉辦首個區域供冷系統開放日，並邀請學生、青少年中心及長者中心、非政府機構、觀塘區議員，以及公眾人士參觀，深入了解區域供冷系統的廠房及設施。850多名參觀者對該項目的技術、規模和效益印象深刻。

### First DCS Open Day

As a pioneering energy efficiency infrastructure project, DCS is of great interest to the local community. To inform our neighbours and the community about the DCS, we held the first DCS Open Day in May 2018 and invited students, youth and elderly centres, NGOs, Kwun Tong District Councillors and the public for an in-depth tour of the DCS plants and facilities. The more than 850 visitors who attended were impressed with the technology, scale and benefits of the project.



區域供冷系統首個開放日於2018年舉行，有超過850名參觀者出席。圖為參觀區域供冷系統北廠的學生及市民，對一台顯示系統詳情的模型大感興趣。

Students and members of the public touring the DCS North Plant showed great interest in a model with details of the system. They were among the over 850 visitors at the first DCS Open Day held in 2018.

環境局局長黃錦星先生為區域供冷系統首個開放日主持啟動禮。開放日吸引了很多學生、青少年中心及長者中心、非政府機構、觀塘區議員和公眾人士參與。

Secretary for the Environment, Mr Wong Kam-sing, officiated the first DCS Open Day launching ceremony. The event was well attended by students, youth and elderly centres, NGOs, Kwun Tong District Councillors and the public.



### 推廣重新校驗

我們於2017年6月推出香港首份《重新校驗技術指引》，以推廣重新校驗，為香港提升樓宇能源效益開創新階段。年內，我們舉辦多個講座及研討會，並邀請本地及海外講者，與業界、政府部門、物業管理公司、學者及專業團體，就重新校驗方面分享專業知識和經驗。

目前，我們正計劃推出培訓課程，提升本港在重新校驗方面的專業知識水平，第一批受訓對象為工程師，然後是技術人員。重新校驗涉及相當專門的技術知識、數據收集和分析。因此，我們制訂了長遠策略，協助香港業主和業界了解重新校驗的價值、採納並付諸實行。

為推動重新校驗，我們的首要任務之一，是透過各種方式，例如建立像網上黃頁的資料庫，為業主及物業管理公司物色服務供應商。另外，我們亦會促進香港重新校驗行業的發展，因為利用重新校驗，有利香港在未來進一步降低能源強度。

### 支援上網電價計劃

機電署支援2017年公布的「上網電價」計劃。此計劃為政府與兩電重新簽訂管制計劃協議的一部分。在此計劃下，兩電的住宅及商業用戶可在自己的處所安裝太陽能和/或風能可再生能源系統，從而獲得「上網電價」之費用。此計劃亦大大有助鼓勵香港市民生產可再生能源。

為支援「上網電價」，機電署修改了「香港可再生能源網」，提供安裝工程承辦商名單及相關申請程序等資訊。我們亦已設立「上網電價」公眾查詢熱線，並將發行小冊子，說明「上網電價」相關事宜，如安裝光伏電池板等，促進公眾參與。

### 2018/19年度的活動

我們將繼續就強制性能源效益標籤計劃第四階段諮詢業界，該階段或會涵蓋發光二極管燈和家用燃氣器具。隨着區域供冷系統工程不斷增加，我們將擴大項目團隊，跟進區域供冷系統新項目。「全民節能」運動下的各項計劃，來年亦會繼續發展和增加。

與此同時，我們亦會繼續做好日常工作，例如推廣淡水冷卻塔和建築物能源效益註冊計劃，確保建築物已根據《建築物能源效益條例》進行能源審核、執法，以及推行我們為向業界和公眾推廣能源效益及節能而開展的各種社區參與計劃。

### Promoting Retro-Commissioning

Our launch of Hong Kong's first Technical Guidelines on Retro-commissioning (RCx) in June 2017 marked a new stage in the promotion of RCx in Hong Kong for greater energy efficiency in buildings. During the year, we held talks and seminars featuring local and overseas speakers who shared their expertise and experiences in RCx with the trade, government departments, property management companies, academics and professional bodies.

We are currently planning to introduce RCx training courses to upgrade local expertise in this field, first for engineers and then technicians. As RCx involves considerable technical expertise, data collection and analysis, we have developed a long-term strategy to help Hong Kong's building owners and the trade recognise the value of RCx and adopt RCx practices.

One of our main priorities with RCx is to help building owners and property management companies source RCx service providers by, for example, setting up an online yellow-page style database. Another priority is to facilitate the development of an RCx industry in Hong Kong as adopting RCx will be vital to the further reduction of Hong Kong's energy intensity in future.

### Support for the Feed-in Tariff Scheme

The EMSD supports the Feed-in Tariff (FiT) Scheme announced in 2017, which is part of the Government's renewed Scheme of Control Agreement with the two power companies. Under FiT, residential and business customers of the two power companies can earn FiT payments by installing solar- and/or wind-powered renewable energy systems on their premises. This scheme is a major step forward in encouraging the people of Hong Kong to generate renewable energy.

To support FiT, EMSD has revamped the HK RE Net website to provide information such as a list of installation contractors and the relevant application procedures. We have also set up an FiT public enquiry hotline and will issue a booklet with guidance notes on matters such as installing photovoltaic panels to promote participation in FiT.

### Initiatives for 2018/19

With regard to MEELS, we will continue to consult the trade on the fourth phase of the scheme, which will likely cover LED lights and domestic gas appliances. As DCS work continues to increase, we will expand our team to take on new DCS projects. The various programmes under the Energy Saving for All campaign will also grow and develop in the year ahead.

At the same time, ongoing work such as the promotion of FWCT and HKEERSB, BEEO energy audits and law enforcement, as well as our full range of community engagement initiatives to promote energy efficiency and conservation to the trade and the public, will continue.



## 重新校驗—機電署「樓宇醫生」 Retro-commissioning with the “Building Doctors” of EMSD

能源效益事務處高級工程師江嘉華相信，「重新校驗」透過調校樓宇各種系統與設備操作，以及知識共享，對提高建築物能源效益有極大潛力。

Kong Ka-wah, senior engineer at the Energy Efficiency Office, believes Retro-commissioning has enormous potential to enhance building energy efficiency via fine-tuning building systems and equipment operations as well as knowledge sharing.



重新校驗是一項有系統及成本效益的檢測方法，通過追蹤耗能設備/系統的操作數據，分析及診斷，定期檢查現有建築物的能效表現，從而制訂一套以科學為本且能節省能源的操作改善的方案。雖然重新校驗的概念在香港仍然相對較新，但很快已被本地屋宇裝備業界認可。這全賴嘉華與能源效益事務處團隊，機電署的致力制訂重新校驗指引、透過舉辦技術講座和促成持份者之間的合作以推廣重新校驗，以及幫助業主透過重新校驗提高能源效益。

嘉華憶述：「兩年前，在我們開始就重新校驗制訂指引的時候，根本無法想像原來大家會對這計劃感興趣。」

從那時起，他一直研究如何提高屋宇裝備系統的能源效益，例如冷氣、照明、電氣裝置、升降機和自動梯。正如他所描述的那樣：「重新校驗這些樓宇時，我們的工作就像是『樓宇醫生』，為樓宇檢查健康狀況。」

他與團隊負責的其中一項重新校驗試行項目，涵蓋六座政府大樓。通過團隊和營運基金同事之間的緊密合作，結果令人鼓舞，每年能節約3%至9%的電力。

隨後，嘉華和他的團隊開始向私營界別推廣重新校驗，並制訂針對不同持份者的宣傳計劃。自2016年以來，嘉華和他的團隊已為超過3 000人，包括物業發展商、物業管理公司、專業機構及工會，舉辦了40多場簡介會、技術講座及經驗分享會。嘉華和他的團隊對持份者的積極反應感到非常鼓舞。

嘉華的下一步，是調整目前的技術指引，並與機電署在私營界別的合作夥伴香港綠色建築議會合作，共同為業界及專業人士設計重新校驗培訓課程。

嘉華還希望在現有政府大樓實施重新校驗，藉以開始新一輪的樓宇節能改善計劃。

Retro-commissioning (RCx) is a systematic and cost-effective process of periodically checking an existing building's energy performance. It involves tracking operational data from energy-consuming equipment and systems, analysis and diagnosis to provide solutions that can save energy. Although RCx is still a relatively new concept in Hong Kong, it has quickly become recognised by the local building services sector. This has been largely due to the work of Ka-wah Kong and a team of the Energy Efficiency Office (EEO), whose role at EMSD is to formulate guidelines on RCx, promote RCx via technical talks, encourage co-operation among stakeholders, and facilitate the improvement of energy efficiency through RCx by owners of existing buildings.

“Two years ago, we started to formulate the guidelines on RCx,” Ka-wah said. “We couldn't imagine then that so many people would be interested in it.”

Since that time, he has been studying how to improve the energy efficiency of building services systems, such as air-conditioning, lighting, electrical installations, lifts and escalators. As he describes it, “When retro-commissioning buildings, we act like “building doctors” who examine the health of buildings.”

One of the initiatives he and the team undertook was a pilot RCx project covering six government buildings. With close collaboration between the team and Trading Fund colleagues, the results were very encouraging, with annual electricity savings ranging from 3% to 9%.

Following this project, Ka-wah and the team began to promote RCx to the private sector with a publicity plan aimed at stakeholders. Since 2016, Ka-wah and the team have conducted over 40 presentations, technical talks and experience sharing sessions for over 3 000 people, including developers, property management companies, professional institutions and trade unions. The positive feedback from stakeholders has been very encouraging for Ka-wah and the team.

The next step for Ka-wah is to fine-tune the current technical guidelines and work with EMSD's private sector partner, the Hong Kong Green Building Council, to co-create an RCx training programme for the trade and professionals.

Ka-wah would also like to start a new round of building energy efficiency improvements by implementing RCx in existing government buildings.

## 為促進能源效益立法 Translating Energy Efficiency into Legislation

能源效益事務處前工程師陳瑩瑩，曾於「強制性能源效益標籤計劃」第三階段實施前，負責諮詢不同持份者意見的工作，並編訂了新的《實務守則》。

Dorothy Chan Ying-ying, former engineer at the Energy Efficiency Office, was responsible for stakeholder consultation prior to the implementation of the third phase of the Mandatory Energy Efficiency Labelling Scheme and compilation of the new Code of Practice.



具備能源效益的產品在節能方面擔當十分重要的角色，因此，機電署積極把更多節能產品納入強制性能源效益標籤計劃（強制性標籤計劃）。在籌備實施第三階段強制性標籤計劃時，陳瑩瑩負責向不同持份者，例如製造商、供應商及公眾進行諮詢，並尋求他們的支持。她亦編製了新的《實務守則》、舉辦多次業界研討會及零售商探訪活動等。

此外，在修訂《能源效益（產品標籤）條例》工作方面，她積極與環境局及律政司合作，草擬相關修訂條文。瑩瑩說：「這是我第一次參與立法工作，把工程術語翻譯成法律條文，是一項甚具挑戰的工作。能夠代表機電署向環境局及律政司提供協助，我感到很高興。在推動實施第三階段強制性標籤計劃的過程中，最難忘的是在立法會審議條例期間，我為環境局提供支援，迅速把正確全面的資訊發放到會議，這有助確立機電署的正面形象，亦促成了條例獲得順利通過。」

瑩瑩正籌備把另一批產品納入下一階段的強制性標籤計劃。瑩瑩說：「到目前為止，強制性標籤計劃的涵蓋範圍約佔家居全年用電量的70%。在下一階段，我們計劃涵蓋發光二極管燈、燃氣用具及其他電器。我們正不斷研究和挑選適當的產品納入計劃的範圍，以節省更多能源，並推動香港應對氣候變化的最佳方法。」

As energy-efficient appliances play a very important role in saving energy, EMSD looks for new energy-efficient appliances to be introduced into the Mandatory Energy Efficiency Labelling Scheme (MEELS). In the lead-up to the implementation of the third phase of the MEELS, Dorothy Chan Ying-ying was responsible for conducting consultations to solicit feedback and support from different groups of stakeholders, including manufacturers, suppliers and the public. She also compiled the new Code of Practice and organised trade seminars and publicity visits to retailers.

In addition, Dorothy collaborated with the Environment Bureau (ENB) and the Department of Justice (DoJ) to amend the Energy Efficiency (Labelling of Products) Ordinance. Dorothy said, “This was the first time I was engaged in shaping legislation and translating engineering terms into legal language, which was a very challenging task. Working on behalf of EMSD, I was delighted to offer support to the ENB and the DoJ. In the process of promoting the implementation of the third phase of MEELS, the most memorable thing was that during the deliberation of the Ordinance at the Legislative Council, I supported the ENB in swiftly providing correct and comprehensive information to the meeting, which helped maintain the positive image of EMSD and contributed to the successful passage of the legislative amendment.”

Dorothy is preparing to include another batch of appliances in the next phase of MEELS. Dorothy said, “Until now, the coverage of MEELS accounted for about 70% of the annual electricity consumption in the residential sector. In the next phase, we are planning to cover LED lamps as well as gas and other electrical appliances, and we will conduct regular studies and select suitable appliances for incorporated into MEELS in order to save more energy and contribute to the fight against climate change in Hong Kong.”



## 提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

我們致力與主要持份者，建立可靠及透明的溝通渠道。我們亦相信要享有高水平的機電安全及能源效益，公眾教育比檢控更行之有效。

2017/18年度，我們以雙管齊下的方式，與業界及公眾溝通。我們亦意識到新科技包括手機應用程式、社交媒體、短片及視訊對年青一代的影響。因此，我們因時制宜，使用相應的溝通方法和工具與他們溝通。與此同時，我們必須確保各種安全及能源效益的訊息，能通過印刷媒體、電視及電台等傳統途徑，傳送給社會其他階層人士。

### 鼓勵業界參與

我們的策略，是促進機電業界遵守相關法律及工作守則，並鼓勵他們效法最佳實踐做法，提高專業水準。我們亦會就如何提升安全及能源效益表現，定期諮詢業界。近年，我們在推廣機電行業方面走得更前，以期吸引更多年輕人加入我們的行列。

年內，我們經常通過會議、簡報會及研討會，以及向行業協會、工會、專業團體及培訓機構派發的通告和通訊，與受監管的行業和相關行業溝通。我們亦會透過不同的工作小組及諮詢委員會，就一些影響業界及業內人士的議題收集行業組織及個別人士的意見。

我們亦推出了各樣績效評估及認可計劃、比賽及自願註冊計劃，增加業界的透明度，提升行業專業標準及形象。為照顧機電行業新生代的需要，我們於機電署YouTube頻道、相關的非政府機構網站及其他社交平台，上傳了多條短片分享技術知識和培養安全意識。

We are committed to building trust and transparency in our communications with key stakeholders. We also believe that public education is more effective than prosecution in achieving a high level of E&M safety and energy efficiency.

In 2017/18, we adhered to our two-pronged communication approach of engaging the regulated trades and the public. As we are aware of the impact on the younger generation of new technology, including mobile apps, social media, short videos and visual communication, we tailored our approach and tools accordingly. At the same time, we continued to ensure that various safety and energy efficiency messages are available via traditional channels such as print media, TV and radio for other sectors of the community.

### Engagement with the Trades

Our approach is to help the E&M trade comply with the relevant laws and codes of practice, encourage them to adopt best practices and raise professional standards. We also seek the trade's views on how to enhance their safety and energy efficiency performance on an ongoing basis. In recent years, we have made an extra effort to help promote the E&M trade to young people in a bid to attract more new blood to the industry.

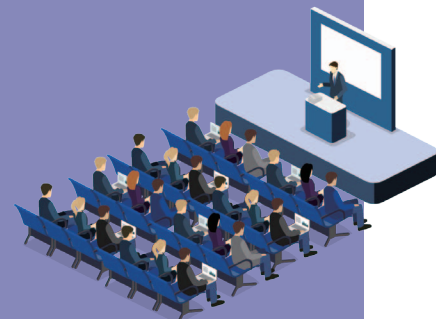
During the year, we communicated frequently with the regulated trades and related industries via meetings, briefings and seminars, as well as circulars and newsletters for trade associations, workers' unions, professional bodies and training institutes. We also consulted with trade groups and individuals through various working groups and advisory committees to solicit their views on matters affecting their sector and practitioners.

Various performance assessment and recognition schemes, competitions and voluntary registration schemes have also been put in place to increase the trade's transparency, their professional standards and image. Catering to a younger generation of E&M workers, we posted short videos on the EMSD YouTube channel, the websites of relevant NGOs and other social media to share technical knowledge and build safety awareness.



我們每年均為機電業內不同界別舉辦各種講座及研討會，以協助業界符合相關法律及各種實務守則，並採納最佳作業方法。

We hold talks and seminars for different sectors in the E&M trade throughout the year to help them comply with the relevant laws and codes of practice and adopt best practices.



我們與前國家質檢總局於2017年6月，在香港舉行聯合公開展覽，作為慶祝機電署與國家質檢總局攜手推動內地和香港的機電安全和能源效益14周年的活動之一，圖為展覽開幕禮。

Opening ceremony of the joint 14th anniversary celebrations of EMSD-AQSIQ cooperation in promoting E&M safety and energy efficiency in the Mainland and Hong Kong.

### 國際及區域交流

香港是多個機電安全及能源效益相關國際機構的成員，並扮演著獨特的角色。近年，機電署積極舉辦不同的國際及區域會議，確保香港在向海外同業學習的同時，能表達自己的見解。

舉例來說，我們與香港鐵路有限公司於2017年10月22至27日合辦了第二十七屆國際鐵路安全議會年度會議（「鐵路會議」），為重要的鐵路安全國際論壇。是次會議吸引逾300個來自40個國家與地區的代表參加，包括內地鐵路局官員首次應邀出席，以及分別來自泰國與老撾負責工務及運輸方面的部長級官員參加。

另一盛事是我們與前國家質量監督檢驗檢疫總局（國家質檢總局）於2017年6月在香港舉行了第14次年度會議及聯合公開展覽暨業界聚會。機電署與國家質檢總局的合作，已踏入第14個年頭，攜手促進內地和香港的機電安全和能源效益。2018年4月，國家質檢總局的出入境檢驗檢疫管理職責和隊伍已劃入中國海關總署，我們將與新伙伴繼續通力合作。

在2018年5月舉辦的第55屆亞太經濟合作組織能源工作小組會議，是環境局及機電署合辦的區域盛事。我們在2017/18年度努力籌備下，吸引了來自19個亞太經合組織成員經濟體的180多名代表參加。

### International and Regional Exchange

Hong Kong is a member of many international organisations on E&M safety and energy efficiency and has a unique role to play. In recent years, EMSD has been active in hosting various international and regional conferences to ensure that Hong Kong's voice is heard while learning from our overseas counterparts.

An example was the 27th annual conference of the International Railway Safety Council (IRSC) — one of the most important international forums on railway safety — from 22 to 27 October 2017, which we co-hosted with MTR Corporation. The 2017 conference in Hong Kong attracted over 300 delegates from more than 40 countries and regions, including Mainland railway officials for the first time, as well as two ministers for transport and public works from Thailand and Laos.

Also significant was the 14th annual meeting with the former General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ), which we held in Hong Kong, together with a joint public exhibition and a trade gathering in June 2017. The event marked the 14th anniversary of EMSD's cooperation with AQSIQ in promoting E&M safety and energy efficiency in the Mainland and Hong Kong. The team for entry-exit administrative law enforcement under AQSIQ was transferred to and integrated under the General Administration of Customs of the People's Republic of China, our new cooperation partner, in April 2018.

An important regional event was the 55th meeting of the Asia-Pacific Economic Cooperation (APEC) Energy Working Group in May 2018 hosted by the Environment Bureau and EMSD in Hong Kong. Preparatory work was undertaken in 2017/18 for this event, with over 180 delegates from 19 APEC member economies attending.



## 提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

### 「機電·啟航」迎新典禮

作為香港機電業推廣工作小組(工作小組)的召集人，機電署聯同工作小組成員，首次舉辦了「機電·啟航」迎新典禮。來自成員機構的逾700位機電業年青學員首次參與了是次活動。

工作小組於2012年成立，由香港的19家機電機構組成，旨在推動機電業人才招聘和培訓，以滿足對業內人手不斷增加的需求。政務司司長為活動主持揭幕儀式，標誌着在香港未來發展的帶動下，機電事業前景一片光明。

### 改善各項計劃和約章

年內，我們修訂了「瓶裝石油氣分銷商安全表現評級計劃」，優化評級準則及審核機制，使參與計劃的石油氣分銷商繼續提升氣體安全標準及客戶服務。

我們亦豐富了兩年一度的「傑出註冊電業工程人員選舉」的內容，在現有的「個人組」以外增設了「團隊組」，從而鼓勵更多註冊電業工程人員參加。

### “E&M GO!” Orientation Ceremony

As convenor of the Hong Kong E&M Trade Promotion Working Group, EMSD hosted the first “E&M GO!” orientation ceremony together with Working Group members. Held in September 2017, the event attracted over 700 first-year technician trainees from various E&M organisations in the Working Group.

Established in 2012, the Working Group comprises 19 major E&M organisations in Hong Kong and aims to promote E&M talent recruitment and training to satisfy the ever-increasing manpower needs of the E&M industry. Officiated by the Chief Secretary for Administration, the ceremony highlighted the bright prospects of the E&M trade in the context of Hong Kong's future development.

### Enhancing Various Schemes and Charters

During the year, we enhanced the LPG Cylinder Distributor Safety Performance Recognition Scheme by strengthening its marking criteria and the audit mechanism, so that participating LPG cylinder distributors would continue to raise their standards in gas safety and customer service.

We also enriched our biennial Outstanding Registered Electrical Worker Awards Scheme by extending the existing Individual category to include a new Team category, with the aim of encouraging greater participation among practitioners.



我們於2017年下半年在機電署總部大樓設置了一間示範車輛維修工場，讓業界更了解「車輛維修工場自願註冊計劃」的基本註冊要求。圖為我們同事於現場向業界講解。

A colleague gives a guided tour of the sample vehicle maintenance workshop, set up at the EMSD Headquarters Building in the second half of 2017. At the workshop, members of the trade can learn about the basic requirements for registration under the Voluntary Registration Scheme for Vehicle Maintenance Workshops.



機電青少年大使計劃定期舉辦參觀活動，提高青少年對機電業的興趣。

Regular visits are organised under the EMYA Programme to enhance young people's interest in the E&M trade.

「車輛維修工場自願註冊計劃」已踏入第三個年頭，我們成功鼓勵全港約七成車輛維修工場註冊，高於2016/17年度的六成。我們亦於機電署總部大樓，設置車輛維修示範工場，鼓勵業界深入探究設施。事實證明，該活動有助業界，尤其是小型車輛維修工場的東主及技工，理解自願註冊計劃的安全和營運準則。

香港建築物能源效益註冊計劃亦已檢討及改善。由2018年1月1日起，各類新建及現有建築物/處所的能源表現只要超出法定最低要求，並取得由香港綠色建築議會管理的綠建環評或其他國際認可的建築物環境評估制度頒發的良好能源表現認證，均可申請加入此計劃。相關的合資格環保裝置招致的資本開支或可享有加快的稅務扣除。

這些改善措施，旨在鼓勵更多樓宇業主及物業管理公司提升轄下建築物的能源效益表現，以超出《建築物能源效益條例》的法定要求。

In the third year since the launch of the Voluntary Registration Scheme for Vehicle Maintenance Workshops (VRSVMW), we have succeeded in encouraging about 70% of local vehicle maintenance workshops to register, up from 60% in 2016/17. We also set up a vehicle maintenance demonstration workshop at the EMSD Headquarters and invited the trade to take an in-depth tour of the facility. The event proved to be very useful in enhancing the trade's understanding of the safety and operational standards required under the VRSVMW, especially for the owners and mechanics of small vehicle maintenance workshops.

The Hong Kong Energy Efficiency Registration Scheme for Buildings (EERSB) was also reviewed and enhanced during the year. Starting 1 January 2018, owners of all types of new and existing buildings/premises can apply to join the EERSB if they have achieved energy performance exceeding the minimum statutory requirements under the Buildings Energy Efficiency Ordinance and obtained certificates of good building energy performance through the BEAM Plus Assessment System or other internationally-recognised building environmental assessment. Capital expenditures incurred on the construction of energy efficient building installations registered under EERSB may be eligible for accelerated tax deduction.

All these enhancements are aimed at encouraging more building owners and property management companies to raise the energy efficiency performance of their buildings above and beyond the BEEO requirements.



## 提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

### 公眾參與

年內，我們舉辦了一系列目標為本的活動，提高公眾對機電安全和能源效益的意識。我們與大眾定期溝通的活動包括公眾研討會、講座、通訊、機電嘉年華、教育徑導覽團、「機電青少年大使」計劃，以及為學校、幼稚園及安老院，持續舉行外展講座和展覽。這些活動均為2017/18年度機電署的重點社區參與計劃。

我們還定期與傳媒會面，為記者的查詢及訪問邀約提供迅速兼專業的回應。我們與媒體的年度聚會，為記者和編輯另闢途徑，了解機電署的工作重點，以及提供與我們的高層管理人員重新聯繫的機會。我們還不時為同事安排傳媒會面培訓，特別是那些負責事故調查的同事，讓他們能夠專業地處理傳媒現場查詢，保持我們工作的透明度。

### 慳神大比拼、機電青少年大使及其他公眾活動

市民大眾可參加由機電署舉辦的各項獎勵活動，如透過學校、屋邨、辦公室及其他組別參加「慳神大比拼」。同樣，公眾亦可透過自己的工作地點、學校及其他場所，參加「全民節能」下的各項活動，如「節能約章」及「4Ts約章」。

年內，機電署透過「機電青少年大使」計劃，為6 000多名成員舉辦參觀活動，例如參觀香港鐵路公司的九龍灣車廠及香港中華煤氣有限公司的總部。此外，機電工程署署長在2018年4月舉辦的首個「機電青少年大使」計劃年度大會，與150多位青年大使及其家人分享經驗。

### Engagement with the Public

Throughout the year, we held a wide range of target-specific activities and events for the general public to promote E&M safety and energy efficiency. Regular communications such as public seminars and talks, newsletters, the E&M Carnival, group visits to our Education Path, our E&M Young Ambassador programme as well as ongoing outreach talks and exhibitions at schools, kindergartens and elderly homes formed the core of our community engagement programme in 2017/18.

We also engaged with the media regularly, providing prompt and professional responses to journalists' enquiries and interview requests. Our annual media gathering provided another channel for journalists and editors to understand EMSD's current priorities as well as an opportunity to refresh contacts with our senior management. From time to time, we also arranged media training for our colleagues, especially those with incident investigation responsibilities, so that they could handle on-site media enquiries professionally and with a high level of transparency.

### Awards, EMYA and Other Activities for the Public

Members of the public are able to take part in a wide variety of award events held by EMSD, such as the Energy Saving Championship Scheme, via their schools, housing estates, offices or other appropriate categories. Similarly, they may also participate in initiatives such as the Energy Saving Charter and the 4Ts Charter under the annual Energy Saving for All campaign through relevant channels at their workplace, schools or other venues.

The E&M Young Ambassadors (EMYA) programme, EMSD's youth engagement initiative with over 6 000 members, organised visits for members during the year, such as the MTR Corporation's Kowloon Bay depot and the Hong Kong and China Gas Company Limited headquarters. Our Director hosted the first EMYA annual gathering in April 2018, where he shared experiences with over 150 young ambassadors and their families.

### 樂齡科技顯愛心

機電署於2017年6月參加由香港社會服務聯會(社聯)舉辦的首屆「樂齡科技博覽暨高峰會」。此外，我們又與社聯合辦了「樂齡科技顯愛心」青少年比賽，旨在通過鼓勵參賽隊伍提出創意產品方案，提高長者的生活質素，讓他們生活更方便、更健康愉快。

比賽吸引了共93支隊伍參加，包括小學、中學及共融組別。獲獎的創意項目包括醫療警報裝置、輪椅助力裝置和長者智能坐墊。各得獎隊伍之獎金已全數捐贈給指定的慈善機構。

我們亦計劃與社聯繼續合作，尋找各種方法，讓樂齡科技在社區發展。

### Gerontech Youth Challenge

EMSD took part in the first Gerontech Expo cum Summit organised by the Hong Kong Council of Social Services (HKCSS) in June 2017. Together with HKCSS, we co-organised the Gerontech Youth Challenge as part of the overall programme. The competition was held to enhance health, convenience and well-being for the elderly by encouraging participating teams to come up with creative product ideas that improve quality of life for the elderly.

A total of 93 teams participated under the Primary School Teams, Secondary School Teams and Integrated Teams categories. Winning project ideas included a medicine alert device, a wheelchair power-assist device and a smart cushion for the elderly. Cash prizes were donated to charities designated by the winning teams.

We also plan to collaborate with HKCSS to explore further ways of supporting gerontech development in the community.



2017年首次與香港社會服務聯會合辦「樂齡科技顯愛心」比賽，鼓勵年青人關懷長者生活。

The Gerontech Youth Challenge was held in collaboration with the Hong Kong Council of Social Service in 2017 for the first time to promote care for the elderly by the younger generation.



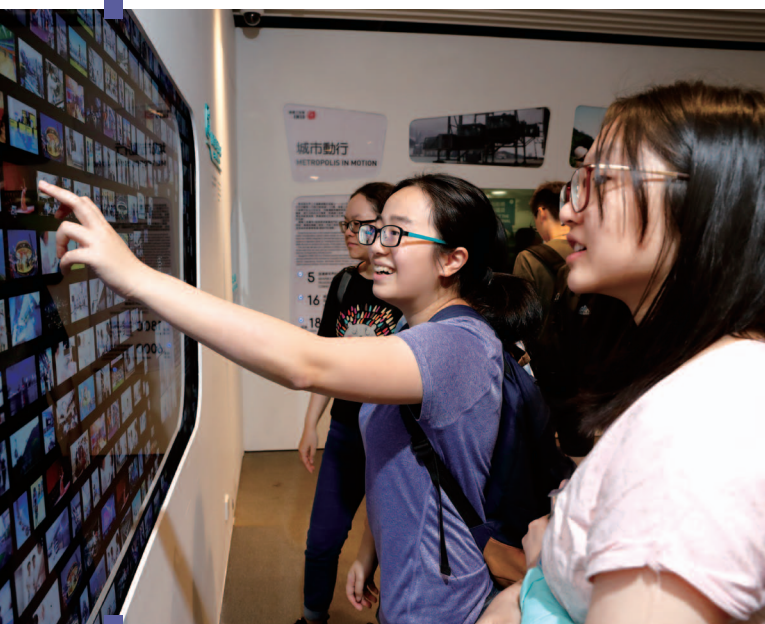
## 提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

### 公眾機電意識調查

作為評估公眾的機電意識的一部分，我們於2017年7月至10月期間展開了「公眾機電意識調查」，以衡量公眾在機電安全及能源效益方面的知識及意識水平。調查範圍包括電話調查，訪問合共2 006名10歲至64歲的市民，以及四個專責小組。從討論中收集更深入的資訊及小組成員的第一手回應。調查結果有助於我們找出在規管服務方面有待改善之處。

### Public Awareness Survey

As part of our ongoing effort to gauge public perceptions, we conducted a Public Awareness Survey from July to October 2017 to measure the general public's knowledge and awareness of E&M safety and energy efficiency topics. The Survey consisted of a telephone survey, which covered a total of 2 006 respondents from the age of 10 to 64, as well as four focus groups to collect in-depth information and first-hand feedback from respondents. The findings were useful in helping us to identify areas for improvement in our Regulatory Services.



機電署的展覽館經全面翻新後已於2018年3月重開。圖為學生於展覽館內試玩觸屏式遊戲，了解機電工程署的服務，興趣盎然。

Students having fun with a touch-screen interactive panel in the revamped EMSD Gallery learn about EMSD's services. The new Gallery was re-opened in March 2018.



機電署高層管理人員於2017年11月舉行的傳媒聚會，為傳媒朋友闡釋部門如何支援初創企業，並促進本港的創新科技發展。來自廿多家傳媒機構的記者和編輯出席了是次聚會，並參觀了數個以機電署總部為據點，就多個項目進行測試的初創企業創科專案。

At the media gathering in November 2017, our senior management explained how EMSD supports start-ups and facilitates I&T development in Hong Kong. Journalists and editors from more than 20 media organisations attended the event and were shown some of the I&T trial projects by start-ups using EMSD Headquarters as the pilot site.

### 「機電·夢飛翔」展覽館隆重開幕

我們致力改善機電署總部大樓，當中包括改建教育徑展覽館。展館正式改名為「機電·夢飛翔」展覽館，並已於2018年3月重新向公眾開放。

「機電·夢飛翔」展覽館的新展品，為參觀者創造猶如親歷其境的「機電之旅」，讓他們認識機電署的日常工作及各種有關機電和能源效益的知識。展覽館內的互動遊戲和有趣展品，老少咸宜。歡迎公眾隨時前來參觀，或預約團體導賞。學生及其他人士均無任歡迎。

除了「機電·夢飛翔」展覽館，教育徑亦包括總部大樓的其他環保及教育設施。在2017/18年度，我們共為學校、社區團體、青年中心、海外代表團和專業團體舉辦了267次導賞。

### 傳媒聚會

我們最近一次的傳媒聚會已於2017年11月舉行，主題圍繞機電署如何能支援初創企業，並提出以總部為據點，發展創新科技(I&T)先導專案。來自20多家傳媒機構的記者和編輯出席了是次聚會，一同觀摩創新科技先導專案，例如智能溫度調節器及電池狀態診斷系統。在聚會上，高層管理人員亦概述了機電署在促進香港創新科技發展的策略和措施。

### 機電嘉年華2018

「機電嘉年華2018」於2018年1月假機電署總部大樓舉行，吸引近12 000名公眾人士參加為期兩天的活動。參與者和訪客從中了解機電安全、能源效益與科技應用，以及機電署與機電業過往數十載的發展。

### Grand Opening of the EMSD Gallery

As part of the ongoing effort to transform and upgrade the facilities in our headquarters building, we revamped our Exhibition Gallery and renamed it the EMSD Gallery, which was re-opened to the public in March 2018.

The new features of the EMSD Gallery create an experiential journey for visitors to explore and learn about EMSD's work, as well as E&M safety and energy efficiency. With interactive games and fun exhibits, the Gallery welcomes walk-in guests as well as pre-arranged groups of students and other visitors.

The EMSD Gallery is a key element of the Education Path at our headquarters building, which also comprises other green and educational features. In 2017/18, we hosted a total of 267 guided tours of the Education Path for schools, community groups, youth centres, overseas delegations and professional bodies.

### Media Gathering

Our latest media gathering, held in November 2017, focused on how EMSD supports start-ups by using our headquarters as a pilot site for their innovation and technology (I&T) projects. Journalists and editors from more than 20 media organisations attended the gathering and were shown some of the I&T trial projects, such as smart controllers for fan coil units and a battery state diagnostics system. At the gathering, our senior management outlined EMSD's strategies and initiatives that will facilitate I&T development in Hong Kong.

### E&M Carnival 2018

Our E&M Carnival 2018 was held in January 2018 at EMSD Headquarters, with nearly 12 000 members of the public participating in the two-day event. Participants and visitors learned about E&M safety, energy efficiency and technology applications, as well as the development of EMSD and the E&M trade in the past few decades.



為期兩天的「機電嘉年華2018」，已於2018年1月於機電署總部大樓露天廣場舉行，圖為開幕禮上各主禮嘉賓及參與機構代表。嘉年華吸引了12 000多位市民參加，透過攤位遊戲與教育活動，加深對機電安全、能源效益和科技應用的認識。

VIP guests and representatives from participating organisations at the opening ceremony of the E&M Carnival 2018, a two-day event in January 2018 at the EMSD Headquarters piazza. Over 12 000 members of the public took part in booth games and educational activities to learn about E&M safety, energy efficiency and technology applications.