能源效益及相關事項通訊
A Newsletter on Energy Efficiency and Related Matters

二〇一三年二月 Feb 2013

EnergyWits 智能

第二十期 ISSUE NO. 20

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珍惜資源 全民節能

機電工程署
EMSD

《建築物能源效益條例》已於2012年9月21日起全面實施

The Buildings Energy Efficiency Ordinance came into full operation on 21 September 2012

《建築物能源效益條例》(簡稱《條例》)已於2012年9月21日起全面實施。《條例》管制新建建築物及進行「主要裝修工程」的現有建築物內的4類主要屋宇裝備裝置,即空調、照明、電力、升降機及自動梯等符合基本能源效益標準;商業建築物須為建築物內的中央屋宇裝備裝置每10年進行一次能源審核。今期《智能》將為讀者逐一簡介有關規定。

The Buildings Energy Efficiency Ordinance (BEEO) came into full operation on 21 September 2012. The BEEO governs the minimum energy efficiency standards of 4 key types of building services installation for newly constructed buildings and "major retrofitting works" of existing buildings: air-conditioning installation, lighting installation, electrical installation as well as lift and escalator installation; and requires commercial buildings to carry out energy audit for the central building services installation every10 years. In this issue of EnergyWits, the relevant requirements of the BEEO will be briefly introduced.

《建築物能源效益條例》之電視宣傳片
TV announcements for Buildings Energy Efficiency Ordinance

涵蓋範圍

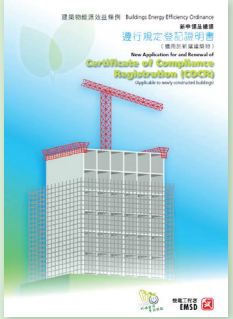
《條例》適用於附表1內訂明的建築物,當中包括商業建築物、旅館、學校、社區用途建築物、市政用途建築物、醫院、機場客運大樓、鐵路車站、政府建築物、住宅建築物及工業建築物的公用地方等等。

Coverage

The Ordinance applies to prescribed buildings in Schedule 1, including commercial building, hotel and guesthouse, school, community building, municipal services building, hospital, passenger terminal building of airport, railway station, government building, common area of residential building and industrial building, etc.

新建建築物

發展商須於獲發上蓋建築施工同意書後,在2個月內為訂明建築物向機電工程署署長(署長)提交首階段聲明,以聲明已按《屋宇裝備裝置能源效益實務守則》(簡稱建築物能源效益守則)的規定擬訂合適設計,並於樓宇獲發佔用許可證後4個月內提交次階段聲明,確認已遵從相關規定。兩份聲明均須由「註冊能源效益評核人」(簡稱評核人)核證。署長在收到所需資料及文件後,會向發展商發出「遵行規定登記證明書」(簡稱證明書)。我們會擬備獲發證明書的樓宇記錄冊,供公眾查閱。日後樓宇的業主每十年須為證明書申請續期。

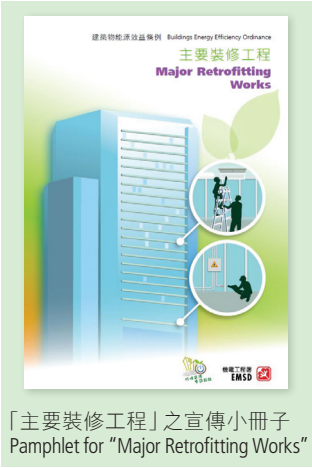


新申領及續領遵行規定登記證明書之宣傳小冊子
Pamphlet for New Application for and Renewal of Certificate of Compliance Registration

Newly constructed buildings

Developers of prescribed buildings under the BEEO are required to submit stage one declaration to the Director of Electrical and Mechanical Services (DEMS) within two months after obtaining the consent to the commencement of building works for superstructure construction to declare that suitable design provisions have been included into the design and planning of the building to meet the requirements of the Code of Practice for Energy Efficiency of Building Services Installation (the Building Energy Code or the BEC). Within four months after obtaining the occupation permit, developers are required to submit stage two declaration to confirm compliance with the BEC requirements. Both declarations will have to be certified by a Registered Energy Assessor (REA) registered under the BEEO. DEMS will issue Certificates of Compliance Registration (COCR) to developers upon receipt of the required information and documents. A register of buildings issued with COCR will be made available for public inspection.

而當有關建築物的單位及公用地方進行「主要裝修工程」時，當局會進一步要求負責人（例如業主或租客）取得由評核人發出的「遵行規定表格」，以證明已遵從最新版本的建築物能源效益守則規定，並時刻保持相關屋宇裝備裝置不低於表格訂明的適用標準。「主要裝修工程」包括涉及樓面面積500平方米或以上的屋宇裝備裝置裝修工程，或增設或更換中央屋宇裝備裝置的主要組件。



「主要裝修工程」之宣傳小冊子
Pamphlet for "Major Retrofitting Works"

Subsequent building owners are required to apply for renewal of the COCR once every ten years.

For subsequent "major retrofitting works" carried out in premises and common areas, responsible persons (e.g. owners, tenants) will be further required to obtain a Form of Compliance (FOC) certified by an REA on compliance with requirements of the latest BEC version, and to maintain the building services installations concerned to standards not lower than that applied in the FOC. "Major retrofitting works" include retrofitting works of building services installations covering a floor area of 500 m^2 or above, or addition or replacement of a main component of a central building services installation.

現有建築物

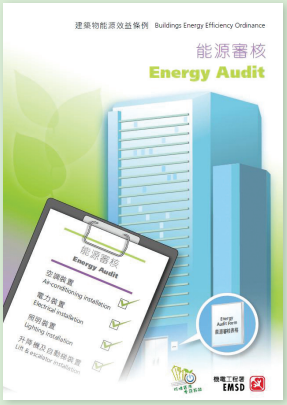
現有建築物只須在進行「主要裝修工程」時，提升它們的能源效益。有關上文所述的「主要裝修工程」的安排亦適用於現有建築物。

Existing buildings

Existing buildings will only be required to improve energy efficiency whenever the buildings undergo "major retrofitting works". The arrangements of "major retrofitting works" as mentioned above also apply to existing buildings.

能源審核

商業建築物及綜合用途建築物內作商業用途部分的擁有人，須委聘評核人按照《建築物能源審核實務守則》的要求，每十年為樓宇內的中央屋宇裝備裝置進行能源審核，評估裝置的能效表現及找出能源管理機會。該建築物的擁有人須在該建築物的主要入口的當眼處，展示載有能源使用指數（以兆焦耳標示每年每平方米所耗用的能源）的能源審核表格。



能源審核之宣傳小冊子
Pamphlet for Energy Audit

Energy audits

Owners of commercial buildings and commercial portion of composite buildings are required to engage REAs to conduct energy audits for the central building services installations of their buildings once every ten years, to assess the energy performance and to identify energy management opportunities in accordance with the requirements of the Code of Practice for Building Energy Audit. The Energy Utilization Index (energy consumption in megajoules per square metre per annum) of a building showing on an Energy Audit Form should be exhibited in a conspicuous position at the main entrance of the building concerned.

「敦促改善通知書」及《條例》的執行

署長可向違例的建築物擁有人或負責人發出「敦促改善通知書」，指示該人士採取相應的糾正措施。機電工程署會對評核人提交的文件及完成安裝的屋宇裝備裝置作出抽查，確保它們符合《條例》的要求。

有關詳情，請瀏覽《條例》相關網站（www.beeo.emsd.gov.hk）。

Improvement notice and enforcement

DEMS is empowered under the BEEO to serve Improvement Notices to building owners or responsible persons who fail to meet the statutory requirements. The Electrical and Mechanical Services Department will also carry out enforcement checking of the submissions from REAs and sample inspections of completed installations to ensure that the requirements in the BEEO are complied with.

For more details, please visit the relevant website of the BEEO (www.beeo.emsd.gov.hk).

電磁爐自願性能源效益標籤
Voluntary Energy Efficiency Labelling Scheme for Induction Cooker

「自願性能源效益標籤計劃」現時已涵蓋二十種家用器具及辦公室設備。在2012年7月24日，本計劃涵蓋範圍已經擴大至電磁爐。電磁爐自願性能源效益標籤採用『確認式』標籤制度。該類標籤並不會把器具的能源效益分級，而是表明產品已獲證明符合訂明的能源效益及性能要求。

Voluntary Energy Efficiency Labelling Scheme (VEELS) now covers 20 types of household appliances and office equipment. VEELS extended the coverage to induction cooker and it has been fully implemented since 24th July 2012. The VEELS for Induction Cooker operates as a "Recognition-Type" labelling system does not grade an appliance's energy efficiency. Rather, the Recognition-Type Energy Label tells you that the product has been certified to meet the specified energy efficiency and performance requirements.

本計劃旨在幫助消費者選擇節能的產品、讓市民更加認識使用具能源效益的產品的重要性、鼓勵製造商及供應商推出更多具能源效益的產品，以及達致實際節約能源。根據能源標籤的資料，消費者可作出精明的選擇，透過選擇具能源效益的產品，為保護環境出一分力。

The VEELS aims to help consumers select more energy-efficient products, increase public awareness of the importance of using energy-efficient products, encourage manufacturers and product suppliers to market more energy-efficient products and achieve actual energy savings. With the energy labels, consumers can make informed choices to help the environment by choosing energy-efficient products.

適用範圍

本計劃的適用範圍包括所有進口或在本港製造的新註冊電磁爐，生效日期由參與者自行決定，但不包括二手、已在使用、在運送途中或製造以供出口的產品等。

計劃的條文適用於以電磁感應加熱為加熱源操作的煮食爐，惟煮食爐的額定能源消耗量為700瓦至2800瓦。本計劃並不包括以下產品:

- 商用電磁爐；
- 工頻電磁爐(利用50Hz進行電磁感應加熱)；以及
- 凹灶。

Scope

The scope of application covers all new registered appliances imported to or manufactured in Hong Kong with effect from the date that is declared by the participant but does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, etc.

The provisions of this scheme shall apply to cookers using electromagnetic induction heating as heating source with rated power consumption range from 700W to 2800W. The scheme does not cover product with the following characteristics:

- induction cookers for commercial use;
- industrial frequency induction cookers (i.e. using 50Hz for electromagnetic induction heating); and
- concave stove.

電磁爐在自願性能源效益標籤計劃須要測試的項目
Testing Parameters for Induction Cooker under the VEELS

測試項目 Test Parameters	要求 Requirements
熱效率 Thernal Efficiency	相等於或大於86% Equal to or greater than the 86%
待機能耗 Standby Power Consumption	相等於或少於2瓦 Equal to or less than the 2W
額定瓦數 Rated Wattage	額定瓦數與實際測試瓦數的偏差應不多於 ± 5% Discrepancy between rated wattage and wattage of the actual test shall not exceed ± 5%

能源標籤

電磁爐的“確認式”能源標籤（見圖1所示）均附有產品類別及註冊號碼等資料，以協助市民購買時作出選擇。

Energy Label

The “Recognition Type” Energy Label for Induction Cooker as shown in Figure 1 listed the type and registration number of the appliances, which helps to facilitate the customer in their purchasing decision.

(圖1) Figure 1

自願性能源效益標籤計劃(電磁爐)計劃文件

Voluntary Energy Efficiency Labelling Scheme (Induction Cookers) Scheme Document

http://www.emsd.gov.hk/emsd/c_download/pee/veels_induction_cooker.pdf

有關計劃的詳細資料，可於機電工程署網址瀏覽（http://www.emsd.gov.hk），亦可致電 (852) 2808 3465機電工程署能源效益事務處查詢。

For details of the scheme, please visit the website of EMSD (http://www.emsd.gov.hk). For enquiries, please contact the Energy Efficiency Office of EMSD at (852) 2808 3465.

“珍惜資源 全民節能 - 惜、識、熄”

“惜、識、熄” 意謂 “珍惜資源，認識理解，點解要熄”

“Energy Saving Begins With Us – Treasure, Savvy, and Switch Off ”

“Treasure, Savvy, and Switch Off” means
“To treasure the energy resources with savvy of the need to switch off”

認識理解，點解要熄？ Savvy of the need to switch off?

在過去20年，香港能源消耗由1990年的227,717太焦耳，升至2010年的276,950太焦耳，升幅達22%。同一段期間，香港的電力消耗由1990年85,801太焦耳升至2010年的150,859太焦耳，升幅達76%。而香港電力消耗佔總能源消耗的比例亦由1990年的38%升至2010年的54%。

在現今科技的發展下，一般用電器具及設施在不執行主要功能時會自動進入備用狀態，來將電力消耗大幅減少。然而，因處於備用狀態的用電器具及設施數量很多，累積的用電量相對仍會很大。因此，最佳的減少耗電方法是明智地使用電力，將不必要的和不須要使用的器具及設施完全熄掉，切斷電源。這會大大減少溫室氣體的排放。

在香港，建築物的用電佔全港耗電量約90%。相應的發電量亦佔香港溫室氣體排放量近60%。以香港約有237萬戶家庭[1]，只要每一戶家庭每日節省用一度電，一年可以節省約8.65億度電，相等於減少排放6.06億公斤二氧化碳[2]。

For the past two decades, the energy consumption in Hong Kong increased from 227,717 Terajoules (TJ) in 1990 to 276,950 TJ in 2010, an increase of 22%. In the same period, electricity consumption in Hong Kong increased from 85,801 TJ in 1990 to 150,859 TJ in 2010, an increase of 76%. The ratio between the electricity consumption and the energy consumption in Hong Kong also increased from 38% in 1990 to 54% in 2010.

Nowadays, most state-of-art electrical appliances or electrical equipment have been equipped with standby function which significantly reduces the electricity consumption when they are not performing their primary function. However with large number of electrical appliances or electrical equipment all drawing standby power, the accumulated electricity consumption is substantial. Thus, the best way to reduce the electricity consumption is to use electricity efficiently and wisely by switching off the power supplies to those electrical appliances or electrical equipment which are non-essential for operation or not in use. Such measures can contribute greatly to curb the GHG emissions.

In Hong Kong, around 90% of the electricity is consumed in buildings with the corresponding electricity generated accounting for almost 60% of the GHG emissions. For 2.37 million domestic households[1] in Hong Kong, a saving of 1 kWh of electricity per domestic household each day can save 865 million kWh a year, equivalent to 606 million kg CO_2 reduction[2].

註：1. 香港特別行政區政府統計處2011年人口普查記錄。
2. 平均每度電的二氧化碳排放量為0.7公斤。

Note: 1. 2011 Population Census Summary Results by the Census and Statistics Department of Hong Kong Special Administrative Region.
2. The average emission factor of CO_2 is 0.7kg CO_2e per kWh.

惜電七式 Seven Ways of Electricity Saving

以下提供的『惜電七式』，概述了熄電的建議。建議應於何時何地熄掉那些不必要的和不需要使用的用電器具及設施，以達到全民節能的效果。

To achieve the “energy saving begins with us”, the following summarises seven ways of electricity saving with “switch off” advice. This advice suggests “When” and “Where” to switch off those electrical appliances or electrical equipment which are non-essential for operation or not in use.

1 人走燈滅（熄燈）
Lighting-off in unoccupied rooms

在不需要時把燈關掉。

Switch off lights that are not in use.

2 斷冷虛空（熄空調）
Air-conditioning (AC) off in unoccupied rooms

在不需要時把空調設備關掉。

Switch off air-conditioners that are not in use.

3 欲斷還斷（熄電腦）
Personal Computer (PC) off after use

在不用時或使用完畢後，應將個人電腦及其所有週邊設備關掉，避免停留在備用狀態。

Switch off those personal computers and peripheral equipment that are not in use or after use to avoid leaving them in standby mode.

4 寂滅無間（熄辦公室設備）
Office Equipment (OE) off after work

在不用時或使用完畢後，應將各類辦公室設備的電源關掉，避免停留在備用狀態。如擁有多部傳真機，下班前，應將傳真信息轉移至其中一部或兩部傳真機；並將其它非主要的傳真機關掉。

Switch off those office equipment that are not in use or after use to avoid leaving them in standby mode. Switch off all non-essential fax machines, if there are many, by diverting the calls to one or two essential units after work.

5 絕斷離憂（熄電器）
Electrical Appliances (EA) off after use

在不用時或使用完畢後，應將各類電器的電源關掉，避免停留在備用狀態。

Switch off those appliances that are not in use or after use to avoid leaving them in standby mode.

6 蓄電待發（熄充電器）
Battery Charging Device (BC) off after energy restoration

在不使用時，應將充電器及變壓器由插座拔除或關掉其供電電源。

Unplug all equipment chargers and adapters or switch off their upstream power supply when they are not in use.

7 盈貫滿懷（熄手機）
Mobile Phone (MP) off for energy conservation

在不用時或使用完畢後，應將移動電話通訊服務轉駁接至固網電話；並將移動電話關掉。

Switch off mobile phone that is not in use or after use by diverting the calls to the fixed-line phone.

總結 Summary

長着不熄，絕對可惜
備用不熄，浪費無益
不用即熄，基本常識
節能減排，點解唔熄

It is a pity to leave the power on.
It is a waste to keep the standby on.
It is a savvy to switch off after use.
To save energy and reduce emissions, let's switch off.

節錄自2012年卓越工程建構優質生活講座系列第三講『靈機妙動』
From " Technology for quality living"Lecture Series no.3. - "E&M Engineering in Modern City"

「珍惜資源，全民節能」標識和標語啟動儀式 及「節能約章」簽署儀式
Logo and Tagline on "Energy Saving Begins With Us" Launching Ceremony and "Energy Saving Charter" Signing Ceremony

環境局常任秘書長王倩儀和可持續發展委員會主席陳智思一同主持典禮

The Permanent Secretary for the Environment, Ms Anissa Wong, jointly with the Chairman of the SDC, Mr Bernard Chan officiated the ceremony.

環境局及可持續發展委員會於2012年6月7日在尖沙咀奧海城共同舉辦了一個「全民節能」宣傳活動。在全民參與節能的主題下，活動以簽署「節能約章」為重點。是日，環境局常任秘書長王倩儀和可持續發展委員會主席陳智思一同主持是項「節能約章」簽署儀式，並於活動當日推出了全新的節能標識和標語。

The Environment Bureau and Council for Sustainable Development co-organized a publicity event on "Energy Saving Begins With Us" held on 7 June 2012 at Olympian City, Tsim Sha Tsui. With the theme of community-wide participation in energy saving, it featured the signing ceremony on the "Energy Saving Charter". The Permanent Secretary for the Environment, Ms Anissa Wong, jointly with the Chairman of the SDC, Mr Bernard Chan officiated the signing ceremony. In the event, it also featured the launch of a new logo and tagline on the same day.

環境局常任秘書長王倩儀說：「在香港，建築物用電約佔全港用電的90%。而商業處所包括商場在空調用電方面尤為顯著。因此，減少空調的能源消耗對於整體節能大有幫助。我們高興得到16家發展商及管理公司的支持，承諾於今年6月至9月期間，把他們旗下80多間商場的平均室內溫度維持在攝氏24至25度之間。」

The Permanent Secretary for the Environment, Ms Anissa Wong, said, " Buildings account for about 90% of Hong Kong's electricity consumption. Air-conditioning in commercial premises is a particularly significant energy consumption area. Hence, reducing energy consumption by air-conditioning will effectively help energy saving. We are most pleased to have the support of 16 developers and property management companies in pledging to maintain an average indoor temperature of between 24 and 26 degrees Celsius during the months June to September 2012, at more than 80 shopping malls."

節能約章 / Energy Saving Charter

香港最高大樓的節能努力及應用節能水冷式空調系統

Use of Energy-efficient Water-cooled Air-conditioning System and Energy Saving Endeavour in the Tallest Building in Hong Kong

環球貿易廣場（ICC）的水冷式空調系統

空調的用電量，佔了香港總耗電量達到三成之多，比率頗大。隨著人口的增長和發展，空調的耗電量有不斷上升的趨勢。備有淡水冷卻塔的水冷式空調系統的耗電量一般比傳統氣冷式空調系統可節省達兩成，因此較具能源效益。樓高490米、設有118層、全港最高的大樓，環球貿易廣場(ICC)，於2008年開始相繼落成並且啟用淡水冷卻塔的水冷式空調系統。

2012年8月31日，機電署能源效益事務處的高級工程師石立之先生、工程師林檳先生及工程師郭穎妍小姐到環球貿易廣場(ICC)進行了一次交流性訪問。在是次訪問，啟勝管理服務有限公司助理總經理(工程)，劉志川博士工程師、工程服務經理楊哲恆工程師及工程服務經理李泳森工程師等，分享了有關應用水冷式空調系統和其他樓宇節能設施的設計，其操作上的經驗和如何達致更佳的效能及所克服的挑戰。

Use of Water-cooled Air-conditioning System in International Commerce Centre

The use of air conditioning takes a large proportion of total electricity consumption in Hong Kong. Air-conditioning systems attribute about 30% of the total electricity consumption in Hong Kong. With increasing population and development, the energy consumption of air conditioning systems will likely continue to grow. Water-cooled air-conditioning system (WACS) using fresh water cooling towers is generally more energy-efficient, consuming up to 20% less electricity than air-cooled system. The International Commerce Centre (ICC), the tallest building in Hong Kong (118 floors, 490meters) located at Kowloon Station completed gradually from 2008 and equipped with WACS using fresh water cooling towers. On 31 August, 2012, Ir L.C. SHEK, Ir Ben LAM and Ir Wendy KWOK from Energy Efficiency Office (EEO) of EMSD paid an experience sharing visit to ICC. During the visit, Assistant General Manager (Technical), Ir Dr. Enzo LAU, Technical Services Manager, Ir Howard YEUNG and Technical Services Manager, Ir Sam LEE of Kai Shing Management Services Limited, shared their operational experience and challenges overcome in achieving better energy performance in the building by adopting WACS and other building energy-efficient systems.

ICC設計上的挑戰

劉工程師分享了水冷式空調系統應用在ICC這類摩天大廈的技術準則。劉工程師解釋，ICC作為一座地標性建築物，在其設計階段已經要考慮到切合該空調系統的重要準則，如機房的空間及位置、能效的考慮、冷水管道所覆蓋的範圍、其可靠性、操作及維修保養上的問題、運作成本、對附近大樓可能造成的影響及分階段啟用的安排等。

Challenges in Design

Ir LAU shared that ICC is a super high-rise building. Key technical criteria for air-conditioning system of this landmark building have been considered during the design stage, such as space/plant location, energy efficiency, zoning of chiller water piping system, reliability, operation & maintenance, cost and impact to adjacent buildings and phased completion arrangement.

裝有消霧裝置的冷卻塔

李工程師向我們介紹了ICC位於機房內11米高，其總排熱量超過5萬7千6百千瓦（kW）的十一座淡水冷卻塔。鑑於這些冷卻塔的龐大規模，為消防安全，它們都配備了內置灑水器。為減少對附近樓宇帶來滋擾，他們已在設計階段考慮到排氣的座向，其中五座面向住宅樓宇的冷卻塔，配備了消霧裝置，以減低煙霧形成的不良影響。

ICC機房內的11米高室內冷卻塔

11m tall indoor cooling towers inside the ICC plant room

Cooling Towers with Plume Abatement

Ir LEE introduced that ICC has been equipped with eleven (11) sets of indoor fresh water cooling towers (with total heat rejection capacity over 57,600kW) of more than 11m in height in the plant room. Due to its mega scale, the cooling towers are installed with internal sprinklers for fire protection. The orientation for exhaust air has considered in design stage to minimize disturbance to nearby buildings. Five of the cooling towers facing the residential buildings have installed plume abatement devices to minimize the adverse effect of plume formation.

冷卻塔的日常運作及保養

ICC設有廿四小時全天候註守的大廈監控員以及空調系統的駐場保養小組。他們的工作包括確保客戶有穩定的空調供應，及分別作每週、每月、每季度和年度定期檢查以防止機件損壞。李工程師表示：「我們每月都會檢查冷水系統的水質，除此之外，我們一年會進行八次退伍軍人病菌含量的抽查檢測，比淡水冷卻塔計劃所訂立的季度抽查要求更加嚴謹。」

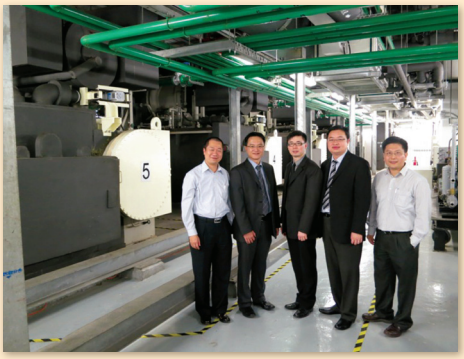
Proper Operation & Maintenance of Cooling Towers

ICC has 24/7 in-house BMS operators and MVAC system maintenance team on-site to monitor the cooling tower system operation to ensure continuous supply of air conditioning to customers and to check for any potential risk of equipment breakdown. Routine preventive maintenance is carried out on weekly, monthly, quarterly and yearly basis. Ir LEE said, "we monitor the water quality of cooling tower system on monthly basis. Legionella bacteria content is examined 8 times a year which is more stringent than the quarterly requirement under the Fresh Water Cooling Towers Scheme for Air Conditioning Systems (FWCT Scheme)."

採用先進節能設施

劉工程師表示ICC團隊現正與一所本地大專院校合作，優化他們現有的冷凍設備。這個設備配有智能中央操控系統，能收集數據並分析不同時候系統在運作上的差異，如日、夜及不同季節等，從而得出調節空調系統的參考指標。這個系統預期可使ICC比一般辦公大樓節省約一成半的耗電量，至於中央空調系統的其他節能設施包括：

- 次級冷水泵、冷卻塔和送風機組均備有可變速裝置；
- 可調節水流量的初級冷凍水供應系統；
- 用海綿球自動式冷凝器清洗，可清除喉管上的水垢及
- 過濾系統能隔除雜質積聚，進一步清除冷卻塔循環水內的水垢。



機電署訪客與ICC的營運組參觀製冷機機房
EMSD visitors and ICC management visited the chiller plant

Adopting Advanced Energy Efficiency Features

"ICC team is working with a local university to develop our chiller plant optimization", Ir LAU said. The air-conditioning system is equipped with a central intelligent control system which collects and analyses operational data for day-and-night and seasonal variations to provide a baseline for adjustment of various control parameters of the air conditioning system to reduce energy consumption. It is expected that the energy consumption can be reduced by around 15% compared with general office buildings. Other energy efficienct equipments for the central air conditioning system are also introduced -

- Variable speed drives for secondary chilled water pumps, cooling towers and AHU;
- Variable primary flow configuration for the chilled water system;
- Automatic condenser tube cleaning using spongy spheres to eliminate tube fouling; and
- Filtration system to prevent debris accumulation to reduce fouling in the cooling tower water circulation system.

節能的努力成果

透過履行不同的節能計劃，ICC在去年減少了超過3%的碳排放量。ICC於2011年獲得香港品質保證局頒發的「ISO50001能源管理體系證書」及香港建築環境評估證書計劃的白金評級證書，肯定ICC在節能方面所作的努力；同時，ICC在照明裝置、升降機及自動梯裝置、空調裝置及電力裝置等四項範疇亦獲得機電署頒發的「香港建築物能源效益註冊計劃」的「建築物高能效標誌」。

Achievement of Better Energy Performance

ICC has acquired more than 3% reduction of carbon footprint in last year by implementing various energy saving plans. In 2011, it was awarded the ISO 50001 Energy Management Systems Certificate by the Hong Kong Quality Assurance Agency and also obtained HKBEAM platinum certification for its achievement of energy saving initiatives. It also obtained four voluntary building energy efficiency certificates in lighting installations, lift and escalator installations, air conditioning installations and electrical installations under the Hong Kong Energy Efficiency Registration Scheme for Buildings issued by EMSD.

由2011年4月起，機電署已按《公眾衞生及市政條例》（香港法例第132章），抽樣巡查淡水冷卻塔及測試水樣本，以規管受污染的冷卻塔。我們會在機電署網頁發佈退伍軍人病菌數量被驗出等於或超過其上限值(即每毫升1,000菌落)而發出「妨擾事故通知」的受污染冷卻塔抽驗結果及所在建築物地點，並予以定期更新，詳情請參閱：http://www.emsd.gov.hk/emsd/chi/pps/oa_ct_stat.shtml

EMSD has been conducting sampling inspections of fresh water cooling towers with water sample tests for regulatory control of contaminated cooling towers under the Public Health and Municipal Services Ordinance (PHMSO), Cap 132 since April 2011. We publish water sampling results and building locations of contaminated cooling towers detected with Legionella Bacteria Count (LBC) at or above the upper threshold of 1,000 cfu/ml with nuisance notices issued under the PHMSO on the EMSD website with regular update (http://www.emsd.gov.hk/emsd/eng/pps/oa_ct_stat.shtml).

電動車充電設施啟用儀式暨展覽會

Government Electric Vehicle Chargers Launching Ceremony and Exhibition

環境局與機電工程署於5月24日在中環天星碼頭公眾停車場內舉辦了一個電動車充電設施啟用儀式的活動。在當天，財政司司長暨推動使用電動車輛督導委員會主席曾俊華先生及其委員、署理環境局局長潘潔、運輸署署長黎以德和本署署長陳帆一同主持是項電動車充電設施啟用儀式。場內同時展出多種品牌和型號的電動車，包括電單車、私家車、輕型貨車和跑車，而由香港電燈有限公司安裝的一台快速充電器亦於當日正式啟用。

The Government electric vehicle chargers launching ceremony held at the Star Ferry Car Park, Central on 24 May 2012 was organised by the Environment Bureau and the Electrical and Mechanical Services Department. The Financial Secretary and Chairman of the Steering Committee on Promotion of Electric Vehicles, Mr John C Tsang and its committee members together with the Acting Secretary for the Environment, Dr Kitty Poon, Commissioner for Transport, Mr Joseph Lai and the Director of Electrical and Mechanical Services, Mr. Chan Fan officiated the ceremony. Various brands and models of electric vehicles including motorcycles, private cars, light vans and sports cars were exhibited and a quick charger set up by the Hongkong Electric Company (HEC) in the venue was also launched on the same day.

政府充電設施啟用儀式

為推動使用電動車，財政司司長曾俊華以身作則，親自駕駛電動車到達會場，並為是次活動揭開序幕。在開幕辭中他提到政府已推出政策，鼓勵各界使用電動車，例如豁免電動車的首次登記稅和扣減企業利得稅等優惠措施。政府會繼續牽頭使用電動車，政府部門換車時會視乎市場上合適車款的供應和運作需要，優先選購電動車。在相關公共充電網絡及配套設施方面，本年6月底將約有1,000個充電設施完成安裝，分佈全港18區的停車場。目前，市民可免費使用各停車場提供的電動車充電設施，為電動車充電。

Launching Ceremony for Government Charging Facilities

In his opening address, the Financial Secretary mentioned that the Government had introduced policies to encourage use of electric vehicles, for example, exemption from first registration tax and deduction of corporate profits tax for procurement of electric vehicles. The Government will continue to lead by example using electric vehicles and priority will be given to procure electric vehicles by Government departments when replacing the retired vehicles taking into account of the availability of suitable vehicles in the market and the operational needs. By mid 2012, there would be about 1,000 sets of charging facilities available and distributed over the 18 districts in the territory for public use, which was free of charge for EV charging at present.

財政司司長曾俊華(右三)、署理環境局局長潘潔(左三)、運輸署署長黎以德(右一)、本署署長陳帆(左一)與其他嘉賓主持電動車充電設施啟用儀式。

The Financial Secretary, Mr John C Tsang, the Acting Secretary for the Environment, Dr Kitty Poon, Commissioner for Transport, Mr Joseph Lai, the Director of Electrical and Mechanical Services, Mr. Chan Fan and other VIPs officiated the EV chargers launching ceremony.

財政司司長曾俊華先生示範操作香港電燈公司位於場內一樓安裝的快速充電站。

The Financial Secretary, Mr John C Tsang demonstrated the operation of the Quick Charger set up by the Hongkong Electric Co., Ltd. at 1/F of the car park.

本署高級機電工程師李奕暉先生向財政司司長曾俊華先生講解充電站的運作

Mr Ernest LI, Senior Electrical and Mechanical Engineer explained to the The Financial Secretary, Mr John C Tsang, the operation of the EV charger.

場內設有由本署安裝的標準充電站

Standard chargers installed in the car park by EMSD

場內展出多種品牌和型號的電動車

Different brands and models of EVs were exhibited

電動車展覽會

啟用儀式後，大會安排一眾傳媒及嘉賓到停車場下層，參觀場內的標準及快速充電站。一眾嘉賓亦參觀了政府、商界及公共機構展出的各款電動車。

Electric Vehicles Exhibition

After the launching ceremony, the guests and media were led to lower floors to see the standard chargers and quick charger. They were also shown different brands and models of EVs exhibited by the Government, private and public institutions.

充電設施及安裝工程

本署工程策劃部同事負責是項政府電動車充電設施工程。工程範圍包括於18個政府停車場設計及安裝500個標準充電設施以及所需要加改固定電力裝置工作。充電設施主要包括一個符合BS 1363標準的13A電源插座，開/關電掣和相關的保護裝置。視乎電動車電池的容量，一般只需6-8小時便可將耗盡能量的電池完全充滿。根據IEC 61851-1的定義，使用一個如上所述的標準化插座，和充電電纜上也付設了控制盒提供控制指示及漏電保護等功能，屬於充電模式2。它也被稱為標準的，正常的或慢速充電，這是適合於較長時間充電的模式，如在家中或辦公室充電。

香港電燈有限公司已於停車場一樓安裝了一個符合日本CHAdeMO標準的50千瓦直流快速充電器。這是一個已固定連接到交流電源，並設有控制指示功能的非車載充電器。這種安排屬於IEC 61851-1所定義的充電模式4。它只需30分鐘便可將一個耗盡能量的電動車電池充滿至八成容量。

Electric Vehicle Charging Facilities and Installation

The Projects Division of EMSTF was responsible for the design and installation work of the 500 charging facilities in 18 Government car parks.

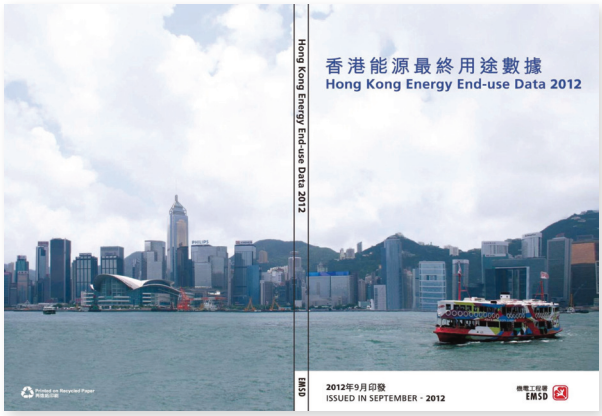
The charging facilities mainly consist of a 13A socket outlet complying with BS 1363 standard, an On/Off switch and associated protective device. Depending on the battery size of the electric vehicle, it normally takes about 6-8 hours to fully charge an electric vehicle battery from full depletion. The use of a standardized socket-outlet as mentioned above with a charging cable equipped with an in-cable control box providing a control pilot function and system of personnel protection against electric shock (RCD), belongs to Mode 2 charging as defined in IEC 61851-1. It is also known as standard, normal or slow charging. This mode of charging is suitable for longer period of charging such as home or office charging.

A 50kW DC Quick Charger complying with the Japanese CHAdeMO standard has been set up on the 1/F of the car park by HEC. This is an off-board charger with control pilot function, which is permanently connected to the a.c. supply. This arrangement belongs to to Mode 4 charging as defined in IEC 61851-1. It just takes about 30 minutes to 80% fully charge the electric vehicle battery from full depletion.

2012新版 香港能源最終用途數據已經發行！

NEW 2012 edition of the Hong Kong Energy End-use Data has been published !

這數據庫記錄全港在2010年間一共使用了276,950太焦耳。當中四大類別 - 住宅、商業、工業及運輸業分別使用了20%，42%，6%和32%。和往年比較，按人口平均計算的能源最終用途量在2010年間錄得約1%的升幅，由2009年間的每人39.09千兆焦耳升至2010年間的39.43千兆焦耳。但從本地生產總值來看，每十億港元生產總值所需的能源使用量近年均持續下跌，由 2009年的168太焦耳下跌至2010年的159太焦耳。在這新版本上，我們也提供了一些香港可再生能源的資料，有興趣的讀者可由下網址免費下載更加詳細的數據。



In 2010, 276,950 TJ were consumed by the end uses in Hong Kong. The consumption was split among the Residential, Commercial, Industrial and Transport Sectors in the proportion of 20%, 42%, 6% and 32%. Compared with the previous year, the consumption per capita recorded a slight increase of about 1%. It increased from 39.09 TJ/capita in year 2009 to 39.43 TJ/capita in year 2010. However, from the gross domestic product perspective, the consumption continued to decline in the recent years. It dropped from 168 TJ/ Billion HK dollar in year 2009 to 159 TJ/ Billion HK dollar in year 2010. In this new edition, some information of the renewable energy in Hong Kong is also included. Interested readers can seek further information from various tables, graphs and charts displayed in the following website:

http://www.emsd.gov.hk/emsd/e_download/pee/HKEEUD2012.pdf

亞太經濟合作組織
新能源及再生能源專家小組

The APEC Expert Group on New and Renewable Energy Technologies

新能源及再生能源專家小組（下稱專家小組）是一個設於亞太經濟合作組織能源工作小組之下的一個重要技術委員會。專家小組主要是透過推廣國際標準、增強經濟體成員的透明度和資訊交流，以達成亞太經濟合作組織領導人和能源部長就推動可持續發展和綠色增長的指示和承諾。專家小組亦會協助制定和推行亞太經濟合作組織的計劃方案，以促進能源工作小組目標的達成和策略措施的落實。

專家小組每年開會兩次，最近的一次會議於2012年6月18至20日於新西蘭的威靈頓舉行。作為中國香港的代表，機電工程署的能源效益事務處出席了有關會議。是次會議報告了亞太經濟合作組織的最近活動和專家小組的最新發展情況，小組成員亦交換了各經濟體為促進新能源和可再生能源發展的財政鼓勵措施，並分享推動能源效益和可再生能源技術最佳應用實例。主辦經濟體新西蘭更講述其應用可再生能源的悠久歷史，以及分享其利用水力發電、地熱能和風能的成功經驗。現時新西蘭以可再生能源發電的比例約佔其總用電需求的75%。

The APEC Expert Group on New and Renewable Energy Technologies (EGNRET) is one of the important technical committee works under the APEC Energy Working Group (EWG). Through promotion of international standards, transparency and information exchange among the member economies on the use of new and renewable energy technologies, EGNRET is tasked to meet the APEC Leaders and Energy Ministers' directives and commitments on promotion of sustainable development and green growth within the APEC region. The EGNRET also helps develop and implement projects that contribute to the EWG's objectives and strategic initiatives.

The EGNRET members meet twice a year. The recent meeting was held on June 18 to 20, 2012 in Wellington, New Zealand. The Energy Efficiency Office of Electrical and Mechanical Services Department has the honour to represent Hong Kong, China to attend the meeting. The meeting reported the recent APEC activities and progress update of EGNRET projects, exchanged the financial incentives for promoting new and renewable energy in the APEC region and shared the best practices in energy efficiency and renewable energy technologies. The hosted economy New Zealand also shared their long history of development on renewable energy and their success in utilization of hydro, geothermal and wind energies on electricity generation which account for about 75% of New Zealand's total electricity demand at present.

亞太經濟合作組織新能源及再生能源專家小組第38次會議
The 38th Meeting of APEC Expert Group on New and Renewable Energy Technologies

聯絡資料 Contact

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