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

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EnergyWits 智能

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本期內容 Contents

機電工程署
EMSD

促進建築物能源效益
Promotion On Building Energy Efficiency

建築物能源效益資助計劃

建築物能源效益資助計劃已於2009年4月8日推出。環境及自然保育基金已撥款四億五千萬元，為大廈業主進行能源及二氧化碳排放綜合審計項目和能源效益項目提供支助。

能源及二氧化碳排放綜合審計項目有助業主有系統地檢討其建築物使用能源的情況及量化其溫室氣體排放量，並在建築物運作方面尋求機會，提升能源效益和節約能源，以及減低溫室氣體排放量。能源效益項目資助計劃亦鼓勵業主進行改裝、加建或改善工程，以提升屋宇裝備裝置的能源效益表現。

資助會以等額方式提供。如申請涉及一座建築物，每宗能源及二氧化碳排放綜合審計申請的資助上限為15萬港元，而每宗能源效益項目的資助上限則為50萬港元。如申請涉及多於一座建築物，則資助水平為已核准實際總開支的五成，不設上限。

Buildings Energy Efficiency Funding Schemes

The Buildings Energy Efficiency Funding Schemes was launched on 8 April 2009. A total of $450 million has been reserved in the Environment and Conservation Fund (ECF) providing subsidies to incentivise building owners to conduct energy-cum-carbon audits projects (ECA) and energy efficiency projects (EEP) for their buildings.

The ECA could help building owners to systematically review the use of energy and quantify the greenhouse gas (GHG) emissions associated with their buildings, as well as to identify opportunities for the enhancement of energy efficiency and conservation; and reductions in GHG emissions arising from building operations. The EEP would encourage building owners to carry out alteration, addition or improvement works to upgrade the energy efficiency performance of their building services installations.

Subsidies will be provided on a matching basis. For applications involving a single building, the funding caps will be $150,000 and $500,000 per building for ECA and EEP respectively. For applications involving more than one building, a limit of 50% of the approved total actual expenditure spent will be provided without a maximum cap.

若要取得更多有關資助計劃的資料，請瀏覽以下網頁:
More information about the schemes is available in the website:
http://www.building-energy-funds.gov.hk

啟動典禮當日的熱鬧場面
The Launching Ceremony was conducted in a cordial atmosphere

環境局局長邱騰華主持建築物能源效益資助計劃啟動典禮
The Secretary for the Environment, Mr. Edward Yau, officiated the launching ceremony of the Buildings Energy Efficiency Funding Schemes

訂立政府建築物的環保能效架構和節能目標
Set Out Green Performance Framework and Energy Saving Target for Government Building

環境局通告備忘2/2009 / 發展局技術通告 5/2009
ENB Circular Memorandum No.2/2009 / Development Bureau Technical Circular No. 5/2009

- 環境局及發展局於二零零九年四月聯合發佈了一份目標為本的環保能效架構的通告。通告中訂立了新舊政府建築物的綜合環保能效目標，以促進香港環保大廈的發展。
  Environment Bureau and Development Bureau had issued a joint circular on the target-based green performance framework in April 2009. The circular sets out a comprehensive target based green performance framework for new and existing government buildings with a view to promote green buildings in Hong Kong.

環境局通告備忘 3/2009
ENB Circular Memorandum No. 3/2009

- 環境局通告備忘3/2009於二零零九年四月發出，此通告訂下了政府建築物在2009到2014年內新的節約能源目標。
  ENB circular memorandum No. 3/2009 issued in April 2009 on new energy saving target in government buildings from 2009 to 2014.

可參考能源審核指引(2007年版)
See Guidelines on Energy Audit (2007 Edition)

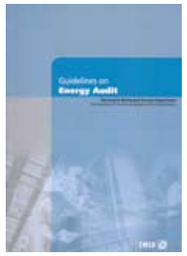
機電工程署的能源審核計劃始於1994 年，同年本署出版第一套「能源審核指引」。並在 2007 年更新的「能源審核指引」出版了中文版本內容更豐富。這本「能源審核指引」，提供有關能源審核的詳盡資料給樓宇使用者/樓宇業主/樓宇管理階層和樓宇操作及維修人員，內容包括審核程序、怎樣挑選能源管理機會、審核報告內容和審核技巧。
EMSD has started the energy audit program in 1994. A set of energy audit guidelines was published and then enriched in 2007, a Chinese version of "Guidelines on Energy Audit" was launched. The booklet provide end-users / building owners / building management / operation and maintenance personnel comprehensive information on how to conduct energy audits, propose energy management opportunities and write up audit reports as well as cover the required skills.

能源審核摘要
Summary of Energy Audit

首先，能源審核開始時必須就樓宇的運作特性及各項耗能設備和系統的技術特性搜集資料。 然後，應界定能源審核的工作範圍及可供使用的資源包括人手、時間和財務預算。根據可供使用的資源，確定整個審核工作所需時間及預算。審核小組的下一階段工作是開始搜集有關樓宇的資料，當中應包括: 過去三年的耗能賬單、耗能設備和系統的技術特性等。當完成搜集以上所有或大部份資料後，審核小組便可更了解樓宇狀況及其耗能設備和系統，同時應可及時發現任何遺漏的資料。審核小組應將其操作特性與原設計或一般相關工程技術進行比較。如想獲得更詳盡資料，可到機電工程署網站下載「能源審核指引」。

能源審核指引
(中文及英文版)

Energy audit begins with collection of all information on the building operation characteristic and the technical characteristic of its various energy consuming equipment/systems. Next, is to determine the available resources including staff, time and budget. Based on the available resources, the time frame and the budget can be fixed. The audit team should then proceed to collect information of the building including energy consumption bills in previous three years, technical characteristic of energy consuming equipment/system, design conditions and parameters. After having collected all or the majority of the above information, the audit team can better plan for the site inspection and measurement to obtain the missing information. The audit team should then compare the operational characteristic against design or corresponding general engineering practice. For more detailed information, please download our Guidelines on Energy Audit at www.emsd.gov.hk.



Chinese and English version of Guidelines on Energy Audit

「全港私家車至醒慳油駕駛比賽」提高慳油意識

"HK ECO-DRIVERS" - Eco-driving Competition Raises Awareness of Fuel Economy

起跑儀式帶來比賽日的歡樂氣氛
Start Off Ceremony brought along a whole day of fun

機電工程署於2008年12月14日舉辦了「全港私家車至醒慳油駕駛比賽」，這是政府舉辦的首項同類活動，旨在提高駕駛者及公眾對節省燃油及慳油駕駛的意識。根據「2008年香港能源最終用途數據」，運輸類別佔香港最終用途能源消耗量的３５％，僅次於商業類別的３８％。各界對是項活動反應十分熱烈，吸引了逾五百位私家車車主報名；因場地及安排上的限制，機電工程署只能接納部份報名人士參賽。

在比賽當日，約一百六十輛參賽私家車雲集機電工程署總部大樓出發。簡單而隆重的起跑儀式於上午九時半舉行，車輛共分為四個類別共十二個組別，分別為「引擎容積級別組」、「家庭組」、「混能動力汽車組」及「邀請組」進行比賽。賽事共分兩條路線，分別為環繞西貢和香港島的A線，及經大埔及新界西環繞新界的B線，每組參賽車輛以耗油最少而能完成指定路線為優勝者。比賽更設有「最佳耗油效益」特別獎項，以每位乘客每100公里耗用燃油計算，燃油量最低者勝出，以鼓勵駕駛人士與別人共用私家車。為確保賽事順利及公平地進行，每部參賽車輛均載有監察員；連同在起跑點、磅車中心、四個油站、兩個檢查站，以及統計中心等處，大會於比賽日共動員逾300名工作人員進行活動，令省油的信息更加全面傳達出去。

Electrical and Mechanical Services Department (EMSD) had organized the Hong Kong Fuel Economy Run for Private Cars (HK ECO-DRIVERS) on 14 December 2008. The event was the first of its kind organised by the Government. It aims to enhance the awareness of the public, particularly drivers, on fuel savings and eco-driving. According to the "Hong Kong Energy End-use Data 2008" published by the Electrical and Mechanical Services Department in September 2008, the transport sector accounts for 35% of end use energy consumption in Hong Kong, which was second to the 38% for the commercial sector. The competition attracted more than 500 entries, and only part of the applicants were accepted by a draw, upon considering safety and impact on the traffic.

On the Run Day, around 160 participating cars, the drivers and their families gathered at the start off point at EMSD Headquarters Building. With the Start Off Ceremony at 9:30am, the participating vehicles entered into the actual run which comprised two routes: Route A (Sai Kung & Hong Kong Island) and Route B (New Territories via Tai Po and NT West). The participating cars were divided into four main categories, and 12 Sub-categories, namely "Engine Cylinder Capacity" category, "Family" category, "Hybrid Vehicle" category, and "Invitational" category. Winners of different sub-categories were determined by how little fuel they consumed to complete the assigned route. Special awards were also given to the "Engine Cylinder Capacity" and "Family" categories to promote the fuel consumption index. The awards, which were determined by the least fuel used per 100 km per passenger, aimed to encourage the shared use of private cars. To ensure the smooth running of the event, all participating vehicles carried an observer seated inside the vehicle. Together with the controllers at start off point, vehicle weighting centre, four petrol filling stations, two check points and the event control centre, more than 300 helpers were involved in organizing the Run Day. These provided further opportunities for raising the public awareness on fuel savings.

The event was completed with great success. Apart from the initiative in organizing the event by EMSD, the success was brought along by the co-organisers which included the Hong Kong Automobile Association, the Institute of the Motor Industry Hong Kong, the Hong Kong Vehicle Repair Merchants Association Ltd and the Hong Kong Institute of Vocational Education (Lee Wai Lee). The event was also fully supported by CLP Power Hong Kong Limited, The Hong Kong and China Gas Company Limited, The Hong Kong Electric Co., Ltd, SINOPEC (Hong Kong) Petrol Filling Station Co. Ltd., ECO Environmental Investments Ltd., Shell Hong Kong Limited, ExxonMobil Hong Kong Limited , Chevron Hong Kong Limited, Transport Department, Hong Kong Police Force , Auxiliary Medical Service and others. This represented a strong collaborative effort among the different organisations in promoting energy conservation.

是次比賽得以成功舉辦，除機電工程署負責策劃外，有賴香港汽車會、香港汽車工業學會、香港汽車修理同業商會和香港專業教育學院（李惠利分校）協辦，同時更得到中華電力有限公司、香港中華煤氣有限公司、香港電燈有限公司、中石化（香港）油站有限公司、易高環保投資有限公司、香港蜆殼有限公司、埃克森美孚香港有限公司、雪佛龍香港有限公司、運輸署、香港警務處和醫療輔助隊及其他機構的鼎力支持，充分顯示不同機構在節約能源方面的共同理念和緊密合作。

頒獎典禮於比賽當日下午在九龍灣國際展貿中心舉行，由前時任機電工程署署長何光偉擔任主禮人，頒獎典禮座無虛設，氣氛熱烈。全部優勝者踏上如奧運比賽的頒獎台領獎，接受台下觀眾熱烈喝彩和祝賀。各得獎者與及其同行家庭成員更與機電工程署、協辦機構和支持機構的高層管理人員代表合照留念，場面十分熱鬧。此外，大會亦頒贈參與證書予每位參賽者，以支鼓勵。

The Prize Presentation Ceremony was held in the afternoon at the Hongkong International Trade & Exhibition Centre, Kowloon Bay on the same day. The ex-Director of Electrical and Mechanical Services, Mr KW HO had officiated at the ceremony, with full house audiences. The winners were invited to stand on the podium to receive the trophies, as if they were in the Olympic Games. After all, all winners were invited to take group photos with the top management representatives from EMSD, the co-organisers and supporting organizations. Each individual participant was also presented with a Certificate of Participation to encourage their participation.

眾優勝者與機電工程署、協辦機構和支持機構的高層管理人員代表合照留念
Group photos of winners and topmanagement representatives from EMSD, co-organisers and supporting organisations

慳油大使激勵出發參賽車輛致力慳油爭勝
Fuel Saving Ambassadors empowered the participants to finish the competition with less fuel

「家庭組」得獎者接受觀眾歡呼道賀
Winners of the "Family" Category receiving trophies and compliments

認可能源經理 Certified Energy Manager

認可能源經理的標誌及資格被視為能源管理界專業成就的準則，亦廣被美國及海外業界作為評審合資格專業人士的標準。由二零零六年起至今，機電工程署已有超過十位同事獲得美國能源工程師學會認證為認可能源經理。其中，有兩位同事來自本署的能源效益事務處，他們分別是劉佩玲女士及何偉業先生。其餘同事分別服務於規管服務、營運基金服務及借調到建築署及路政署的同事。

The CEM credential has become widely accepted and used as a measure of professional accomplishment with energy management field. There are more than 10 EMSD engineers had been accredited as Certified Energy Manager since 2006. Two of them are from Energy Efficiency Office of EMSD, they are Ms. LAU Pui Ling, Iris and Mr. HO Wai Yip. The remaining CEMs are working at regulatory services, trading fund services and seconded to Architectural Services Department and Highways Department.

設置在九龍醫院與電網接駁的太陽能及風能混合發電系統

Grid-connected Hybrid Solar and Wind Turbine System at Kowloon Hospital

九龍醫院早前加裝了18千瓦太陽能光伏板及兩台1千瓦豎軸(直立式)風力發電機(風車)，並在2008年12月正式啟用，成為全港首間引入太陽能及風能混合發電設施的公立醫院。這個裝置亦是機電工程署首度為醫院管理局試點式安裝的太陽能及風能混合發電設施。

Kowloon Hospital commissioned the hybrid system, which comprises of 18kW photovoltaic panels and two nos. of 1kW vertical-axis wind turbines, in Dec 2008. It is the first public hospital in Hong Kong equipped with such hybrid system. The installation is also the first EMSD pilot hybrid system used in Hospital Authority.

九龍醫院的太陽能及風能混合發電設施
Hybrid Solar Photovoltaic & Wind Turbine System at Kowloon Hospital

新安裝的系統特點包括:

The unique features of the hybrid system include:

1) 由一百零八件多晶硅太陽能光伏板及兩座風車組成的太陽能及風能混合發電系統，每年最高可產生約三萬度電，相等於約八百支二十八瓦光管所需要的能量，預計每年可節省約三萬元電費。
The system is made up of 108 nos. of polycrystalline photovoltaic panels and two wind turbines, it will generate approximately 30,000kWh per annum, equivalent to about 828 nos. of 28W fluorescent tube, saving approximately $30,000 dollars.

2) 由於直立式風車的獨特流線型扇頁設計，它比傳統的橫軸(水平式)風力發電機相對用較少的扭力來啟動，只需少於每米3秒的風速就可啟動。
With the advanced aerodynamic design of wind turbine blade, vertical-axis wind turbine compared with traditional horizontal-axis wind turbine requires a low starting torque. The minimum starting velocity is below 3m/s.

豎軸(直立式)風力發電機(風車)
Vertical axis wind turbine

3) 直立式風車所產生的噪音相對傳統水平式風車的為低，因此較為適合在醫院地方使用。
The noise generated by vertical-axis wind turbine is comparatively lower than that of traditional horizontal-axis wind turbine, thus the former is quite suitable for use in hospital areas.

4) 香港位於南中國海沿岸地區，風力資源不俗，而風車的輸出功率和風速的3次方成正比，因此風能是香港的第二種可選擇的可再生能源之一。
Hong Kong is located in the southern part of Mainland China as a coastal city, where wind resource is quite good. The output power of the wind turbine is proportional to the cube of the wind speed.

5) 太陽能和風能組成的系統無論在天晴或天陰亦可持續不斷地產生電能，彌補了太陽能光伏板系統於陰雨天及晚上停產的不足之處。
Continuous power output during cloudy day and night time.

6) 風車和太陽能光伏板均產生單相直流電，經過每相獨立的直流電交流電轉換器後，轉為均等的三相交流電，然後一拼輸入電網。
Both solar panels and wind turbines generate single-phase direct current (DC) electricity. Three 6kVA AC/DC invertors for solar panels and two 1.1kVA DC/AC invertors for wind turbines were used to convert the single phase DC to three phase AC. After conversion, they are combined and connected to the electricity grid.

太陽能及風能混合發電系統路線圖
Block Diagram of the Hybrid System

風車的設計及演算
Design and Calculation of Wind Turbine

風車的設計及演算方法如下：

The procedures for sizing the Wind Turbine are as follows:

1) 從香港天文台取得平均風速、 大氣壓和溫度等數據。
Data of average wind speed, atmospheric pressure and temperature are obtained from Hong Kong Observatory.

2) 製造商提供風速分佈曲線、功率、扇頁直徑和風車高度。
The Weibull wind speed distribution curve, rated power, rotor diameter and turbine height is provided by the manufacturer.

3) 起動和中止直流電交流電轉換器造成的損失約為5%。
Regarding losses caused by starts and stops for DC/AC invertor are about 5%.

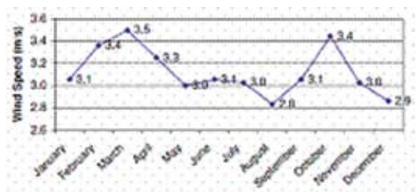
4) 每年發電產量是根據一年的平均風速。它是由風車發電功率曲線數據和風速分佈曲線所取得。
Annual energy production is the total amount of energy a wind turbine produces over a range of annual average wind speeds. It is obtained using wind turbine power curve data and wind speed distribution.

每點在能量曲線用Ev表示， Ev值計算如下：

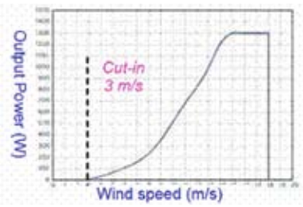
Each point on the energy curve, Ev is calculated as follows:

Ev= 8760 Σ P(x)p (x); x=0⋯25
V = 平均風速(v = 3,4⋯15m/s)
Px= 當風速是x時的風車發電功率
p (x)= 在x點的風速分佈曲線

Ev= 8760∑(Px)p(x) where x=0…25
Where v is the mean wind speed (v = 3,4…15m/s)
And Px is the turbine power at wind speed x
And p(x) is the Weibull probability density function for x



香港每月的平均風速
Monthly average wind speed in HongKong



風車的功率和風速的關係
The relationship of output power of wind turbine and the wind speed

亞太能源研究中心會議 APERC Annual Conference 2009

亞太能源研究中心會議2009於二零零九年二月十八及十九日於日本東京京王廣場酒店舉行，是次會議邀請了來自亞太經濟合作組織的講者及專家，以及其他相關國際組織的代表。會議議程共分三個部分，分別為了解中國的能源；詳細檢討能源效益及展望亞太經濟合作組織的能源需求及供應。

會議的第一部分為分析中國能源政策的實施及區內經濟比較，從而令亞太經濟合作組織成員對中國國內及區內發展更佳能源效益經濟之趨勢有更深入的認識，是次會議並對區內經濟比較作相關經驗及資訊分享。第二部討論了亞太經濟合作組織在能源效益上的工作。這個部分包括了兩個活動；包括(1)詳細檢討志願參與的成員在改善能源效益的進度及(2)概略討論亞太經濟合作組織成員在能源效益的政策及實踐上的共同方針。第三部分集中討論因社會經濟因素而產生的能源生產及使用模式轉變，並深入探討社會經濟的轉變對亞太經濟合作組織成員國對能源需求及供應之影響，從而對未來能源需求及供應的轉變有更深入的認識。

The Asia Pacific Energy Research Centre (APERC) annual conference 2009 was held on 18 &19 Feb 2009 at the Keio Plaza Hotel in Japan. Speakers and experts from APEC member economics and other international organization for particular themes had been invited. The agenda mainly include 3 sessions, which were understanding energy in China, APEC Peer Review on Energy Efficiency (PREE) and APEC energy demand and supply outlook.

The purpose of first session was to provide analysis of policy implementation and inter-economy comparisons on energy, which will provide APEC member economics with understanding national and regional trends in China development towards more energy efficient economy, as well as share relevant information based on the inter-economy comparison. The second session related to APEC Peer Review on Energy Efficiency (PREE), consists of two activities, namely (1) peer review of volunteer member economies on the progress towards their goals in energy efficiency improvement (2) Compendium of energy efficiency policies and action plans of all APEC member economies under a common format. The third session focused on key socio-economic factor that lead to shift in the patterns of energy production and use. In-depth analysis will help us better understand how these socio-economic changes affect the future energy demand and supply situations of APEC economies.

亞太能源研究中心

亞太能源研究中心主要工作是帶領亞太經濟合作組織成員之各項究，從而促進各成員國在國際，區內及國內的能源問題上有更深入的認識。
亞太能源研究中心出版了各種關於能源需求及供應刊物及研究報告。

Asia Pacific Energy Research Centre (APERC)

APERC's main function is to conduct research to foster understanding amongst APEC economics of global, regional and domestic energy issues facing the region. APERC's had various publications which related to energy demand and supply outlook and study reports.

亞太經濟合作組織所出版的刊物種類
The category of publication released under APERC

- APERC Energy Overview
- APERC Presentation
- APERC Research Report
- APERC Energy Demand and Suppy Outlook

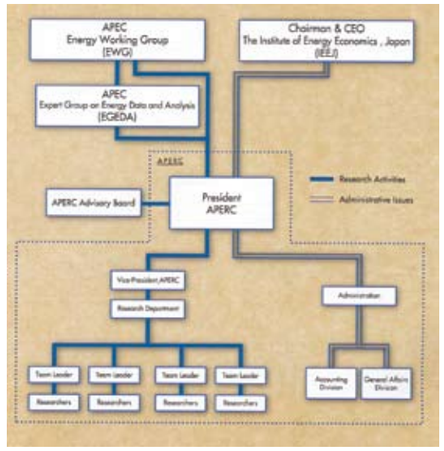
亞太能源研究中心組織架構

亞太能源研究中心附屬日本能源經濟研究所。它是一個獨立運作的區域研究中心，為亞太經濟合作組織之能源發展作區內研究。亞太能源研究中心之整體研究受能源數據分析專家小組的規管及指導，部分研究項目並受亞太經濟合作組織能源工作小組官方式支持。亞太能源研究中心保留一羣來自世界各地知名能源研究中心之領袖所組成的顧問委員會。

APERC's Organization Structure

APERC organisationally is affiliated to IEEJ, operationally it acts independently as a regional research centre with its own mandates and programmes focusing on energy sector development of the APEC member economy. APERC's overall research is guided by EGEDA and the selection of research themes is subject to the APEC Energy Working Group's (EWG) official endorsement. APERC retains a board of advisors, of which members include distinguished leaders from globally recognised energy research centres within the APEC region.

詳細資訊可瀏覽 For detailed information, please visit
www.ieej.or.jp/aperc/



亞太能源研究中心的架構和其他工作小組的關係
The Diagram shows the framework within APERC and other working groups

(節錄: 亞太能源研究中心 2007-2008)
(Source: APERC Asia Pacific Research Centre 2007-2008)

在 09 年 4月 的 第37次亞太經濟合作組織能源工作組會議期間，與亞太能源研究中心副所長(右 2)商討研究項目的建議書
Discussion with the Vice-president of APERC (right 2), for proposals of reasearch themes in 37th Meeting of the APEC Energy Working Group held in April 2009

如何設計、安裝、操作及維修淡水冷卻塔
Design, Installation, Operation and Maintenance of Fresh Water Cooling Towers

近年很多新建或現有的商業樓宇，其空調系統多選擇安裝或經改裝使用淡水冷卻塔作散熱用途。此類的水冷式空調系統因較為節能，使用者可節省一筆可觀的電費，以降低運作成本。與此同時，淡水冷卻塔的設計、安裝、操作及維修都必須妥善處理以確保公共衛生及安全。

In recent years, more and more new and existing commercial buildings have opted using evaporative fresh water cooling towers for heat rejection purposes in their air-conditioning systems. As water-cooled air conditioning systems (WACS) are more energy efficient than air-cooled air conditioning systems, users of WACS can save a considerable amount of electricity costs, hence lower operating costs. While reaping the benefits of WACS, users of fresh water cooling towers should also ensure public health and safety by properly design, install, operate and maintain their cooling towers.

為促進正確使用水冷式空調系統，機電工程署制定了一套水冷式空調系統實務守則(2006年版)。守則為冷卻塔在設計、安裝、試驗、竣工投用、操作及維修提供指引及技術參考。

To promote the proper use of cooling towers to meet the energy efficiency objective with due consideration of environment and health issues, EMSD published a set of Code of Practice for Water-cooled Air Conditioning Systems (CoP) in July 2006. The CoP provides guidelines for the design, installation, testing, commissioning, operation and maintenance of cooling towers.

這套守則共有以下三部:

The CoP comprises the following three parts:

第一部 - 冷卻塔設計、安裝及竣工投用

Part 1 - Design, Installation and Commissioning of Cooling Towers

第二部 - 冷卻塔操作及維修

Part 2 - Operation and Maintenance of Cooling Towers

第三部 - 冷卻塔水處理方法

Part 3 - Water Treatment Methods for Cooling Towers

第一部的內容列舉了冷卻塔系統設計、安裝及竣工投用的最低要求及常規

Part 1 of the CoP specifies the minimum requirements and good practices for the design, installation and commissioning of cooling tower systems.

重點包括以下幾點：
Emphasis is put on the followings:

- 系統設計及施工
  system design and construction
- 冷卻塔的安裝位置
  locations of cooling towers
- 盡量降低循環水的損耗量
  minimization of water loss
- 系統竣工投用
  system commissioning

第二部的內容列舉了冷卻塔系統操作及運行的最低要求及常規，以盡量降低冷卻塔的衞生風險和提高系統的效率

Part 2 of the CoP specifies the minimum requirements and good practices for the operation and maintenance of cooling tower systems with respect to minimizing the health risks of using such systems and optimizing their operating performance.

重點包括以下幾點：
Emphasis is put on the followings:

- 保持系統狀態良好及不受污染
  maintaining the system in a good and uncontaminated condition
- 監察和控制冷卻水水質，包括退伍軍人病菌和異養菌的存在
  monitoring and controlling cooling water quality, including the presence of legionella and heterotrophic bacteria count
- 每年需獨立審核系統的操作及維修
  annual independent audit on operation and maintenance

第三部的內容列舉了適合水冷空調系統的水處理方法

Part 3 of the CoP describes water treatment methods for WACS

重點包括以下幾點：
Emphasis is put on the followings:

- 為使用者提供技術資料，以瞭解一般水處理方法的操作原理、應用、優點和限制
  provision of technical information for users to understand the operating principles, application, advantages and limitations of common water treatment methods
- 介紹選擇水處理方法的主要考慮和因素，以助系統擁有者、設計者及操作人員設計、監察控制和維修水處理系統
  introduction of major factors and considerations in selecting water treatment methods that can help system owners, designers and operators design, monitor, control and maintain the water treatment systems
- 說明水處理程序的基本要求和效能，讓冷卻塔專門承建商或水處理服務供應商可提供適當的服務予不同的冷卻塔系統
  description of the basic requirements and performance of a water treatment programme such that cooling tower specialist contractors or water treatment services providers can provide the appropriate service to different types of cooling tower systems

一套水冷式空調系統實務守則（2006年版）
A set of code of Practice for Water - cooled Air conditioning systems (COP) in July 2006

住宅式即熱氣體熱水爐的安全及能源標籤

Safety and Energy Labels for Domestic Gas Instantaneous Water Heater

如何選購安全而具效能的住宅式即熱氣體熱水爐。直至2009年，香港自願性能源效益標籤計劃已涵蓋十一款家用器具，包括住宅式即熱氣體熱水爐。住宅式即熱氣體熱水爐是唯一擁有能源效益標籤和「GU」標誌的家用器具。

為節約能源，市民可選購貼有「能源標籤」型號的即熱式氣體熱水爐，因「能源標籤」是顯示該熱水爐的效能已達到一定的要求。另一方面，市民必須留意所選擇的即熱式氣體熱水爐是貼有「GU」標誌，以確保該型號熱水爐是符合本地的安全規格。

市民應選用合適出水量熱水爐供應特定的用途，例如10公升/每分鐘供應一浴室，12公升/每分鐘供應一浴室連廚房，16公升/每分鐘供應二浴室。現時，住宅式氣體熱水爐的裝置工作須由「註冊氣體裝置技工」並受僱於「註冊氣體工程承辦商」進行。市民應諮詢註冊氣體工程承辦商選擇合適氣體熱水爐以配合實際使用環境，例如氣體熱水爐的排氣孔安裝位置及操作水壓等。

在使用方面，市民應注意以下即熱式氣體熱水爐節約能源的要訣：

一. 在夏天的時候，調低住宅式氣體熱水爐預設出水的溫度。
二. 最少每十八個月，安排註冊氣體工程承辦商僱用的註冊氣體裝置技工為氣體熱水爐檢修一次，以確保熱水爐運作良好。

How to choose domestic gas instantaneous water heating which are safe and energy efficiency. Up to 2009, the Hong Kong Voluntary Energy Efficiency Labelling Scheme has covered eleven types of household appliances, including domestic gas instantaneous water heater which is the only household appliances with both the energy label and GU mark.

To reduce the use of energy, the public should choose domestic gas instantaneous water heater with energy label, which indicates the performance of that model has met the specified requirement. On the other hand, the public should choose domestic gas instantaneous water heater with "GU" mark to ensure the water heater is in compliance with the local safety requirements.

The public should choose a water heater with suitable water capacity for specific usage, e.g. 10 litres/minute for 1 bathroom, 12 litres/minute for 1 bathroom and 1 kitchen, 16 litres/minute for 2 bathrooms. At present, domestic gas water heaters must be installed by Registered Gas Installers employed by Registered Gas Contractors. The public should consult Registered Gas Contractors on selecting a gas water heater which can suit the premises conditions such as gas water heater flue aperture installation location and water inlet pressure.

The public should pay attention to the following tips in using domestic gas instantaneous water heater:

a. Lower the preset water outlet temperature of domestic gas instantaneous water heater during summer time.
b. Arrange Registered Gas Installers employed by Registered Gas Contractors to conduct inspection and maintenance service for domestic gas water heater at least once every 18 months for ensuring that the gas water heater is in good condition.

「GU」標誌
"GU" Mark

住宅式即熱氣體熱水爐「能源標籤」
Energy Label for Domestic Gas Instantaneous Water Heater

貼有「能源標籤」及「GU」標誌的住宅式即熱氣體熱水爐
Energy Label and "GU" Mark for Domestic Gas Instantaneous Water Heater