能源效益及相關事項通訊
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機電工程署
EMSD

根據《建築物能源效益條例》為中央屋宇裝備裝置進行能源審核

Carry out Energy Audit under Buildings Energy Efficiency Ordinance for Central Building Services Installations

根據《建築物能源效益條例》（簡稱《條例》），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，必須每十年為中央屋宇裝備裝置進行能源審核，並於主要入口的顯眼位置展示有效的「能源審核表格」。《條例》涵蓋四類中央屋宇裝備裝置，包括照明裝置、空調裝置、電力裝置和升降機及自動梯裝置。今期將為讀者介紹中央屋宇裝備裝置的例子，以及《條例》實施的近況。

According to the Buildings Energy Efficiency Ordinance (BEEO), owners of commercial buildings and commercial portion of composite buildings are required to carry out energy audit for the central building services installations once every ten years and exhibit a valid Energy Audit Form in a conspicuous position at the main entrance. There are four types of central building services installation covered by the BEEO, including lighting installation, air-conditioning installation, electrical installation as well as lift and escalator installation. In this issue, examples of central building services installations and the recent situation of implementation of the BEEO will be given.

甚麼是中央屋宇裝備裝置？

中央屋宇裝備裝置指在建築物內並非純粹服務個別單位的屋宇裝備裝置。它亦指沒有公用地方的建築物內的屋宇裝備裝置，但不包括任何純粹服務該建築物內個別單位並由非建築物擁有人所擁有的裝置。

What is a Central Building Services Installation?

A central building services installation (CBSI) is a building services installation that does not solely serve a unit of a building. It also refers to a building services installation in a building without common area, but excludes any installation which solely serves a unit of that building and is owned by a person who is not the owner of that building.

照明裝置
Lighting Installation

空調裝置
Air-conditioning Installation

升降機及自動梯裝置
Lift and Escalator Installation

電力裝置
Electrical Installation

中央屋宇裝備裝置例子 Examples of CBSI		
	有指定公用地方的建築物 Building with designated common area	沒有指定公用地方的建築物 Building without designated common area
照明裝置 Lighting installation	位於公用地方 located in the common area	位於該建築物的任何一處，除非是在個別單位內及由並非該建築物擁有人的單位負責人獨立擁有 located anywhere in that building unless it is in an individual unit and is separately owned by the responsible person of the unit who is not the owner of that building
空調裝置 Air-conditioning installation	非由個別單位的負責人獨立擁有 not separately owned by the responsible person of an individual unit	位於該建築物的任何一處，除非由並非該建築物擁有人的個別單位負責人獨立擁有 located anywhere in that building, unless it is separately owned by the responsible person of an individual unit who is not the owner of that building
電力裝置 Electrical installation	以個別單位的供電商電錶為分界，在電錶前的裝置 on the incoming side of an electricity supplier's electricity meter for an individual unit	位於該建築物的任何一處，除非以個別單位的供電商電錶為分界，是位於電錶後的裝置，而該單位的負責人並不是該建築物的擁有人 located anywhere in that building unless it is on the outgoing side of an electricity supplier's electricity meter for an individual unit with its responsible person not being the owner of that building
升降機及自動梯裝置 Lift and escalator installation	位於公用地方，除非純粹服務個別單位 located in the common area, unless solely serving an individual unit	位於該建築物的任何一處，除非該裝置只純粹服務個別單位及由並非該建築物擁有人的單位負責人獨立擁有 located anywhere in that building, unless it is solely serving an individual unit and is separately owned by the responsible person of that unit who is not the owner of that building

《條例》實施的近況

根據《條例》附表5，現有商業建築物及綜合用途建築物的商業部分須分為四批進行首次能源審核。首批建築物的「佔用許可證」（俗稱「入伙紙」）是於1988年1月1日或之後發出，該批建築物須在2013年9月20日或之前進行首次能源審核。緊隨其後的是第二批建築物，其「入伙紙」是於1978年1月1日至1987年12月31日期間發出。這些建築物須於2014年9月20日或之前進行能源審核。有關第三及第四批建築物進行首次能源審核的時間表以及其他能源審核規定的詳情，請瀏覽本署的專題網站：http://www.beeo.emsd.gov.hk

Recent Situation of Implementation of BEEO

Existing commercial buildings and commercial portion of composite buildings are required to carry out their first energy audit in four batches, according to Schedule 5 of the BEEO. The first batch of buildings, which have their occupation permit issued on or after 1 January 1988, must carry out the first energy audit by 20 September 2013. The second batch of buildings, in which their occupation permit was issued between 1 January 1978 and 31 December 1987, will be the next to carry out energy audit. They are required to carry out the first energy audit on or before 20 September 2014. For schedule of the first energy audit for the 3rd and the 4th batch of buildings and other details about the energy audit requirement, please visit our dedicated website at http://www.beeo.emsd.gov.hk.

創新可再生能源
屯門水力發電站
Creative Application of Renewable Energy – Tuen Mun Hydropower Plant

為配合政府更廣泛採用可再生能源的政策，水務署在超過70個水務設施安裝可再生能源裝置。當中大部分都是在位處偏遠地區的水務設施安裝太陽能光伏板，獨立地為監控設施提供電力。除了應用太陽能發電，水務署先後在欣澳海水抽水站及紅山濾水廠安裝了風力發電機，並依據機電工程署於2007年發佈的「可再生能源發電系統與電網接駁技術指引」，以聯網的方式為水務設施提供部分電力。另外，水務署近年與香港理工大學合作研發「內聯閉式水力發電器」，將供水管道內的小量剩餘水壓轉化為約八十瓦電力，供地下水管的監測儀器使用。

In line with the government policy for wider use of renewable energy, the Water Supplies Department (WSD) has installed renewable energy systems in over 70 waterworks sites, in which photovoltaic panels are mostly used to provide power supply for the remote telemetry facilities. Apart from these installations, the WSD has also adopted wind turbine generators in Sunny Bay Salt Water Pumping Station and Red Hill Water Treatment Works (WTW) to supplement part of their electricity use with connection to the power grid in compliance with the "Technical Guidelines on Grid Connection of Renewable Energy Power Systems" published by the EMSD in 2007. Furthermore, the WSD has teamed up with the Hong Kong Polytechnic University to develop an in-line hydropower harness device that converts a small amount of residual pressure in the underground pipeline to some 80 watts of power for use by the monitoring and control instruments in the water distribution network.

紅山濾水廠的風力發電系統
Wind turbine installed at Red Hill Water Treatment Works

內聯閉式水力發電系統
In-line hydropower harness device

為進一步使用可再生能源以達到減排的目的，水務署在屯門濾水廠興建全港首個水力發電站。此發電系統共設置兩組250千瓦水輪發電機，而所產生的低壓電流先經過電源轉換器及變壓器，再接駁到濾水廠的高壓電力系統，為廠內的設施提供部分電力，從而減低運作成本。整項工程的總預算為二千萬港元，第一期工程已於2013年5月完工，首台水輪發電機現已投產，其平均輸出功率為180千瓦。另一組發電機將於2015年完成，估計屆時可每年產電約300萬度，並為濾水廠節省一成的電費。

Taking the application of renewable energy a step further to reduce carbon emissions, the WSD has recently constructed Hong Kong's first hydropower plant in Tuen Mun WTW. The plant comprises two sets of 250kW water turbine generators (WTGs). Through the power converters and a step-up transformer, the low voltage electricity generated is connected to the high voltage power supply network to provide part of the electricity for the WTW, thus reducing the operation cost. The total project sum is estimated to be $20 million. The first generator put into operation in May 2013 gives an average power output of 180kW. When the second one is commissioned in 2015, the hydropower plant will harvest about 3 million kWh of electricity annually, allowing the WTW to save 10% of its electricity bill.

屯門水力發電站的運作是全自動化的。發電站的監控系統會因應濾水廠的出水量而自動調節發電機的運轉速度，以達到優化輸出功率的目標。同時，操作人員亦可在濾水廠的中央控制室監控整個過程，確保在任何情況下濾水廠的運作都保持安全及可靠。

眾所周知，香港是一個缺乏天然資源的城市，並非所有濾水廠都適合興建水力發電站。具成本效益的水力發電系統必須符合四大條件：包括有充足的剩餘水壓、穩定的流量、適合安裝發電設備的空間與及可善用所生產的電力。因此，工程團隊須充分發揮創意及合作精神，才能克服各種限制，成功在屯門濾水廠加建一個既環保而又具成本效益的水力發電站，每年為本港減少排放約2,000噸二氧化碳。

The operation of Tuen Mun hydropower plant is fully automatic. The monitoring and control system regulates the generator speed according to the WTW flow so as to optimise the power output. The operator can oversee the whole process at the WTW central control room to ensure that the WTW is in safe and reliable operation at all times.

We all know that Hong Kong is lack of natural resources and it is not easy to find a suitable WTW for the construction of a hydropower plant. There are four basic conditions that must be fulfilled for hydropower generation to be economically viable, namely: adequate residual water pressure, a steady flow, available space to accommodate the plant and appropriate load for using the electricity generated. Without the required team spirit and innovative mindset, the project team could not have overcome all the difficulties and restrictions of retrofitting an eco-friendly and cost-effective hydropower plant at Tuen Mun WTW that helps reduce up to 2,000 tonnes of carbon dioxide emissions in the city every year.

屯門水力發電站外貌
Tuen Mun Hydropower Plant Building

首台水輪發電機現已投產
First set of WTG in operation

元朗污水處理廠的微型渦輪發電機 轉廢為能、節能減排

Micro-turbine Generator at Yuen Long Sewage Treatment Works – Converting Waste to Energy, Saving Energy to Reduce Carbon Emission

渠務署承諾盡量減少及紓緩建造工程及設施在運行過程中對環境所產生的影響，這亦是署方的政策，其中一項措施是積極利用可再生能源發電。在二級污水處理過程中往往會產生生物氣(又名沼氣)，主要成份為甲烷氣(CH_4)和二氧化碳(CO_2)，兩者都是溫室氣體。為了善用這些生物氣，渠務署已安裝不同種類的發電設施。因應元朗污水處理廠集水區所需應付的人口數目不多，其污水處理量約為每天15,000立方米，而每天的生物氣產量約只有400立方米，所以，一般大型的電熱聯供發電機並不合適。經詳細研究後，微型渦輪發電機更能適切地在元朗污水處理廠使用，從而善用所有生物氣，實行「氣盡其用，大小通吃」以達至「轉廢為能，節能減排」。

微型渦輪發電機是從美國引進的技術，可利用生物氣發電。它利用燃料將空氣加壓，從而產生氣流以推動渦輪機的葉輪，再帶動發電機轉子從而產生電力（圖1）。渠務署轄下的元朗污水處理廠是全港首間安裝微型渦輪發電機的污水處理廠，工程於2012年中展開，2013年7月中完成。

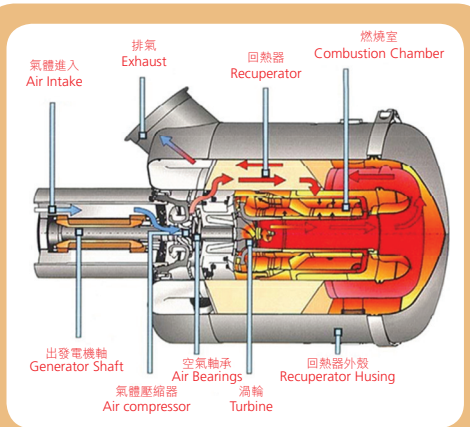


圖1. 微型渦輪發電機的運作原理
(由美國凱普斯通燃氣輪機公司提供)
Figure 1. Operation principle of Micro-turbine Generator
(Provided by Capstone Turbine Corporation, USA)

除體積細小之外，本發電機系統日後能以模組形式擴充以配合生物氣的產量。它的運行速度達每分鐘96,000轉，明顯較一般約每分鐘1,500轉的機械設備高。因此，渦輪機的葉輪轉軸使用了專利設計的空氣軸承系統作為承托，運轉時沒有摩擦力和無需使用潤滑劑及冷卻劑，這亦是其獨有的特徵。

Drainage Services Department (DSD) is committed to minimize and to mitigate environmental impacts arising from construction and operation of its facilities as its policy. One of the initiatives is to utilize renewable energy source to generate electricity. Biogas, also known as marsh gas, is one of the by-products of secondary sewage treatment process and mainly consists of methane (CH_4) and carbon dioxide (CO_2). Both of them are greenhouse gases. DSD has installed various types of facilities to generate electricity. As the population within the catchment of Yuen Long sewage treatment works is at low side, with sewage treatment capacity of approx 15,000 m^3/day and biogas production of approx 400 m^3/day. Large scale combined heat and power (CHP) generator is not appropriate. After detailed study, micro-turbine generator is deemed most suitable at Yuen Long sewage treatment works to fully utilize biogas. This would help converting waste to energy and saving energy to reduce carbon emission as far as practically achievable.

Micro-turbine generator is a technology developed in the United States. It can utilize biogas to produce electricity. High pressure airflow will be created through combustion of fuel to drive the turbine-impeller. The shaft of the turbine in turn drives the rotor to produce electricity (Figure 1). Yuen Long sewage treatment works is the first DSD-owned facility installed with a micro-turbine generator in Hong Kong. The project was commenced in mid-2012 and was completed in mid-July 2013.

Apart from being small in its physical size, the generator system is scalable for future extension to suit the prevailing biogas production rate. Its operating speed is about 96,000 rpm, which is obviously higher than common machine with approx 1,500 rpm. Therefore, its turbine shaft is supported by a patented air bearing system without frictional loss as well as the need of lubrication and coolant as a unique feature.

註：甲烷氣的全球變暖潛能是二氧化碳的21倍，它是一種危險性極高的爆炸性氣體，須在排放到大氣前加以燃燒。
Note : For CH_4, its Relative Global Warning Potential is 21 times that of CO_2 and is a dangerous and highly explosive gas that needs to be burnt by combustion (i.e. flare off) before being discharged to the atmosphere.

根據與中華電力有限公司的協議，本微型渦輪發電機所生產的電力已直接接駁至熱水機房的配電裝置。根據過去幾個月的操作數據，本系統足夠供應元朗污水處理廠總耗電量約百份之三的電力。微型渦輪發電機的一些主要參數列舉於表一。

As per agreement with CLP Power Hong Kong Limited, power produced by this micro-turbine generator is fed directly into the electrical switchboard of the Water Heater House. Based on the operating records in past few months, this system can provide approximately 3% of the overall power consumption of Yuen Long sewage treatment works. The major parameters of the micro-turbine generator are summarized in Table 1.

Major Parameter (主要參數)	Specification (規格)
Power Capacity (發電功率)	30 kW (30千瓦)
Voltage Output (輸出電壓)	380V/3-Ph/50 Hz (380伏特/3相/50赫茲)
Fuel (燃料)	Biogas (生物氣)
Operating Speed (運行轉速)	96,000 rpm (每分鐘9萬6千轉)
Fuel Consumption (燃料消耗)	15 m^3 per hour (每小時15立方米)
Area (佔地面積)	20 m^2 (20平方米)

表一. 微型渦輪發電機的主要參數　　Table 1. Summary of major parameters of micro-turbine generator

微型渦輪發電機是設計在較高和穩定的燃料壓力下運作，生物氣需要利用壓縮機和壓力缸進行加壓和壓力控制的步驟。由於生物氣是經細菌在缺氧和濕度高的環境中分解有機物（厭氧消化程序）而產生的，需要使用乾燥機進行乾燥的程序。與一般的電熱聯供發電機不同，它能直接使用含硫化氫量較高的生物氣為燃料，無須預先進行消除硫化氫的程序。本發電系統由壓縮機、乾燥機、壓力缸和微型渦輪發電機組成（圖2）。

Micro-turbine generator is designed to operate under high and stable fuel pressure. Biogas pressure is required to increase and control through a compressor and a receiver. Since biogas is produced from decomposing organic substance by bacteria under high humidity environment without oxygen (Anaerobic digestion process), it is required to dehumidify through a dryer. Different from general CHP, it can directly utilize biogas with high H_2S without removal of H_2S. The generator system comprises of a compressor, a dryer, a receiver, and a micro-turbine generator (Figure 2).

在本項目完成前，生物氣會供給現有的燃氣式熱水爐，以維持污泥消化缸的溫度，剩餘的生物氣經過燃燒後便排放至大氣中。本系統完成後，再沒有剩餘的生物氣需要排放。節省能源和環保方面，本系統每年的電力生產量約為108,000千瓦時，能有效減少逾83公噸二氧化碳排放量，相等於3,600棵樹木一年內的碳吸收量。

Before completion of the project, majority of the biogas produced was supplied to existing gas-fuelled water heaters to maintain the sludge digestion tanks' temperature. The remaining biogas was simply flared off. After completion of this system, no more residual biogas will be flared off. From energy saving and environmental protection perspective, this system can produce about 108,000 kWh of electricity per annum. Over 83 tonnes of CO_2 emissions can be reduced, which is equivalent to the carbon absorption rate by 3,600 trees per annum.

圖2.元朗污水處理廠的微型渦輪發電機系統
Figure 2. Micro-turbine generator system at Yuen Long Sewage Treatment Works

根據操作經驗，並沒有發生系統故障的記錄，系統的可靠性十分穩定，電力輸出與設計目標一致。此外，系統運行時的噪音和廢氣排放均合乎相關法例的要求。渠務署會繼續監察其運行，如有需要，會以模組形式擴充。累積到的操作數據和經驗，將用作日後設計同類設備和興建新污水處理廠時作參考之用。

Based on operating experience, no down time of the system is recorded and system reliability is quite stable. Power output satisfies the design objectives. In addition, both operating noise and waste gas exhaust do not exceed relevant statutory requirements. DSD will continuously monitor its operation. In case of necessary, the system capacity will be expanded by means of adding modular units. Operating data and experience capitalized would be used as reference for design of similar system and construction of new sewage treatment plant in future.

「淡水冷卻塔和建築物能源效益的規管及實務」技術研討會2013

2013 Technical Forum on Control and Practice of Cooling Towers and Buildings Energy Efficiency

機電工程署的能源效益事務處於2013年11月8日假香港生產力促進局舉辦了一年一度的「淡水冷卻塔和建築物能源效益的規管及實務」技術研討會。研討會旨在推廣使用節能的水冷式空調系統及建築物的能源效益給業界。是次研討會簡述了規管淡水冷卻塔的最新發展及淡水冷卻塔的妥善設計安裝、運作和維修。並藉此機會向業界更新已經在2012年全面實施的《建築物能源效益條例》的實施情況。

水務署亦簡介了選定地區外淡水冷卻塔的供水申請事宜。水務署在考慮有關申請時，會要求申請人採用適用於淡水冷卻塔的替代補充水源　(如循環再用的洗盥污水和集蓄雨水)，以減少由自來水供應的補給水用量。

研討會亦邀請了行內有經驗的老行尊分享了淡水冷卻塔水處理良好作業及綜合的應用，當中包括應用反滲透技術以減少泄放水排放量。

The Energy Efficiency Office (EEO) of EMSD held an annual technical forum on "Control and Practice of Cooling Towers and Buildings Energy Efficiency" on 8 November 2013 at the Hong Kong Productivity Council Building. The forum is to promote the use of energy-efficient water-cooled air conditioning systems and energy efficiency in buildings to the trade.

The forum introduced updates on regulatory control of fresh water cooling towers (FWCT) and topics on their proper design, operation and maintenance. It has also provided a platform to update the trade practitioners on the full implementation of the Buildings Energy Efficiency Ordinance (BEEO) since 2012.

WSD then briefed on the application procedures for fresh water supply to FWCTs outside designated areas. To facilitate its consideration, WSD urged applicants to adopt alternative water sources (e.g. recycled grey water and harvested rainwater) to reduce make-up water demand.

The forum also invited a well-experienced trade practitioner to share the potential, enhancement practices and comprehensive applications of water treatment of FWCTs including the use of reverse osmosis technology to reduce bleed-off quantity.

兩場技術研討會共吸引了約700名各界人仕參加
The two sessions of technical forum attracted about 700 attendants

機電工程署、水務署及嘉賓講者解答台下發問
EMSD, WSD and guest speakers were replying questions

「節能約章」推動全民節能

Energy Saving Charters to Promote Community-wide Participation

為推動全民節能，機電工程署協助環境局推行「室內溫度節能約章」及「“不要鎢絲燈泡”節能約章」，鼓勵社會減少冷氣用電量，以及用能源效益較高的燈具代替能源效益較低的鎢絲燈泡。

去年6月5日，我們舉辦了「節能約章」啟動禮，得到參與團體及公眾的大力支持。同時我們推出電視宣傳短片、電台宣傳聲帶、設立專題網站(http://www.energyland.emsd.gov.hk/energysaving) 及製作一系列宣傳物品，包括海報、單張、櫥窗膠貼及迷你展示牌。

香港建築物佔全港九成總耗電量，相當於超過六成的溫室氣體排放，而空調裝置約佔全港三分之一的總耗電量。政府去年進一步推廣「室內溫度節能約章」，邀請商場、商鋪、辦公室大樓以及辦公室等場所參與。

承諾在去年6月至9月期間將平均室內溫度維持在攝氏24至26度之間的參與者數目如下(截至2013年9月30日，約章的完結日)：

- 商場: 123
- 商鋪: 630
- 辦公室大樓: 197
- 辦公室: 599

另外，政府通過推出「“不要鎢絲燈泡”節能約章」，加快淘汰能源效益較低的鎢絲燈泡。簽署「“不要鎢絲燈泡”節能約章」的供應商及零售商承諾停止補充指定的鎢絲燈泡，並在2013年12月31日起停止銷售指定的鎢絲燈泡。參與約章的商會將全力支持節能約章並致力推廣更環保的照明技術，節省電力。參與約章的用家將避免採購指定的鎢絲燈泡作一般照明用途而採用較高能源效益的照明燈具。

簽署者及支持者的數目如下(截至2013年12月12日)：

- 供應商: 36
- 用家: 304
- 零售商: 28
- 專業團體: 9
- 商會: 5

現時仍可參與約章，有興趣者請聯絡我們索取詳情。

To promote community-wide participation in saving energy, EMSD assisted the Environment Bureau to implement the Energy Saving Charter on Indoor Temperature and the Energy Saving Charter on No Incandescent Light Bulbs, aiming to reduce electricity consumption through air conditioning and the replacement of energy-inefficient incandescent light bulbs (ILBs) by energy-efficient lamps.

On 5 June 2013, a launching ceremony of the Energy Saving Charters was held with great support from the charter participating organisations and the public. At the same time, we also stepped up public education through TV Announcements in the Public Interest (APIs) and radio APIs, and had established a thematic website (http://www.energyland.emsd.gov.hk/energysaving), together with the production of a series of publicity materials like posters, leaflets, stickers and tent cards.

Buildings account for more than 90 per cent of total electricity consumption in Hong Kong and contribute more than 60 per cent of greenhouse gases emissions, one third of which are caused by air conditioning. The Government created the Energy Saving Charter on Indoor Temperature by inviting shopping malls, shops, office premises and offices to sign up.

The numbers of participants (as of 30 September 2013, the end day of the charter) pledged to maintain the average indoor temperate between 24-26 °C during June to September 2013 are：

- Shopping Malls: 123
- Shops: 630
- Office Buildings: 197
- Offices: 599

In addition, the Government launched the Energy Saving Charter on No Incandescent Light Bulbs to expedite the retirement of energy-inefficient ILBs. Participating suppliers and retailers for the charter would pledge to stop replenishing stock of the targeted ILBs, and to stop selling the targeted ILBs by the end of 2013. Participating trade associations will strongly support the charter and will be committed to promote greener lighting for conserving energy. Participating users will refrain from procuring the targeted ILBs for general lighting purposes and adopt more energy-efficient lighting.

The numbers of signatories and supporters (as of 12 December 2013) are:

- Suppliers: 36
- Users: 304
- Retailers: 28
- Professional Bodies: 9
- Trade associations: 5

The charter is still open for participation, those who are interested can contact us for details.

「室內溫度節能約章」海報
Poster of Indoor Temperature Charter

「“不要鎢絲燈泡”節能約章」海報
Poster of “No ILB” Charter

環境局局長黃錦星（左五）與簽署「“不要鎢絲燈泡”節能約章」的代表合照
The Secretary for the Environment, Mr Wong Kam-sing, (left 5) with the representatives of the subscribers of Energy Saving Charter on "No ILB"

環境局局長黃錦星（左五）與簽署「室內溫度節能約章」的代表合照
The Secretary for the Environment, Mr Wong Kam-sing, (left 5) with the representatives of the participants of Energy Saving Charter on Indoor Temperature

亞太經濟合作組織能源工作組第46次會議 46th APEC Energy Working Group Meeting

亞太經濟合作組織能源工作組成立於1990年，其目的在於尋求能源部門對於亞太地區之經濟與社會福祉的最大貢獻，同時減少能源供給與使用對於環境的衝擊。能源工作組在亞太能源研究中心、亞太經濟合作組織能源資訊與分析專家組、能源效率與節約專家組和新能源及可再生能源技術專家組的支援下，落實亞太經濟合作組織能源目標，以促進能源貿易和投資，並確保能源有助於亞太經合組織社區的經濟，社會和環境的改善。能源工作組每年召開兩次會議，討論發展和能源政策問題的進展情況。第46次能源工作組會議於2013年11月18至20日於越南的峴港舉行。作為中國香港的代表，本署能源效益事務處參與了有關會議。

在會議上，成員討論影響亞太地區主要能源問題，分享顯著的能源領域發展資料，並考慮目前的項目和倡議旨在實現能源工作組的目標和未來對能源效率和節能、新能源和可再生能源技術的發展方向。能源工作組的工作專注於提供有效率及可靠的能源與能源服務以滿足亞太經濟合作組織各會員經濟體的需求。

展望2014年，中國將舉辦亞太經濟合作組織領袖峰會。在能源工作組工作方面，中國亦會積極籌辦多個專案項目會議、能源工作組第47次會議，以及第11次能源部長會議。

The Asia Pacific Economic Cooperation (APEC) Energy Working Group (EWG) was launched in 1990 and seeks to maximize the energy sector's contribution to the region's economic and social well being, while mitigating the environmental effects of energy supply and use. The EWG, supported by Asia Pacific Economic Research Centre(APERC), Expert Group on Energy Data and Analysis (EGEDA), the Expert Group on Energy Efficiency and Conservation (EGEEC) and the Expert Group on New and Renewable Energy Technologies (EGNRET) implement APEC energy goals so as to facilitate energy trade and investment, and ensure that energy contributes to the economic, social and environmental enhancement of the APEC community. The EWG meets twice a year to discuss developments and progress on energy policy issues. The 46th Energy Working Group meeting was held from 18 to 20 November 2013 in Da Nang, Vietnam. The EEO of EMSD has represented Hong Kong, China to participate in the meeting.

In the meeting, members discuss key energy issues affecting the APEC region, share information on notable energy sector developments, and consider progress on current projects and initiatives designed to achieve the EWG's objectives and future directions on energy efficiency and conservation, new and renewable energy technologies in the region. EWG's activities are focused on providing efficient and reliable energy and energy services to meet the needs of each APEC member economies.

Looking ahead, China will host the APEC Leaders Summit in 2014. Under the EWG, China is also actively organizing numerous events such as project meetings, the 47th Energy Working Group meeting, and the 11th Energy Ministerial Meeting.

亞太經濟合作組織能源工作組第46次會議
46th Meeting of the APEC Energy Working Group

亞太經濟合作組織 新能源及可再生能源 技術專家組第41次會議

41st APEC Expert Group on New and Renewable Energy Technologies Meeting

亞太經濟合作組織新能源及可再生能源技術專家組第41次會議於2013年10月16及17日在北京召開。專家組成員來自亞太經濟合作組織各地區經濟體，工作主要是促進亞太區內新能源及可再生能源的應用。專家組同時亦會發展落實多個專案項目，以促成亞太經濟合作組織能源工作組的目標及策略行動。本署能源效益事務處代表中國香港參與了是次會議。

在會議上，來自中國、印尼、日本、韓國、馬來西亞、菲律賓、中華台北、泰國、美國和中國香港的代表簡報了所屬地區經濟體有關新能源及可再生能源的發展應用近況。會議同時回顧了專家組的活動和各專案項目的進度，亦特別討論了2014年的建議專案項目。

The 41st meeting of the APEC Expert Group on New and Renewable Energy Technologies was held in Beijing, China on 16 – 17 October 2013. The expert group, with members from APEC economies, has the mission to facilitate an increase in the use of new and renewable energy technologies in the APEC region. The expert group will also develop and implement projects that contribute to the APEC Energy Working Group's objectives and strategic initiatives. The EEO of EMSD has represented Hong Kong, China to participate in the meeting.

In the meeting, delegates from China, Indonesia, Japan, Korea, Malaysia, the Philippines, Chinese Taipei, Thailand, the United States of America, and Hong Kong, China delivered presentations on the development situation of new and renewable energy in their own economies. The meeting also reviewed the progress of the expert group's activities and projects, in particular discussed those that have been proposed for the year 2014.

亞太經濟合作組織新能源及可再生能源技術專家組第41次會議
41st APEC Expert Group on New and Renewable Energy Technologies Meeting

亞太經濟合作組織零耗能建築研討會
APEC Workshop on Net Zero Energy Building

亞太經濟合作組織零耗能建築研討會於2013年10月30至31日在北京舉行，研討會主辦機構是中國建築科學研究院。研討會主要目的是促進亞太區內各經濟體系零耗能建築發展的互相瞭解，及彼此交換相關的資訊、政策和經驗。

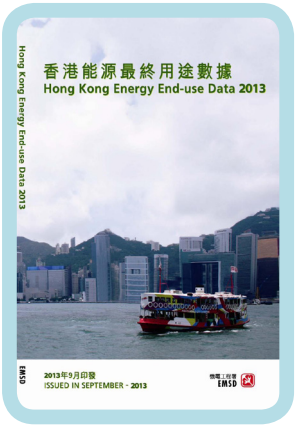
在研討會上，來自中國、印尼、日本、韓國、加拿大和美國的講者介紹了各經濟體系有關零耗能建築的政策、標準、試點項目和技術。超過七十名專家和經濟體系代表包括本署能源效益事務處作為中國香港代表出席該研討會，就零耗能建築作深入討論。研討會後，主辦機構還安排與會者參觀位於研究院院區內，一座正在興建的接近零能源試點建設項目。

The APEC Workshop on Net Zero Energy Building (NZEB) was held in Beijing, China on 30 – 31 October 2013. The workshop was organized by the China Academy of Building Research (CABR). Enhancing mutual understanding of economy's latest NZEB development and exchanging each economy's information, policy systems and valuable experiences are the major objectives of the workshop.

In the workshop, speakers from China, Indonesia, Japan, Korea, Canada and the United States of America delivered various presentations on the development of the latest policies, building codes and standards, pilot projects and technologies related to NZEB in their own economies. Over 70 experts and economy delegates including the EEO of EMSD as a representative of Hong Kong, China attended this workshop and had in-depth discussion on NZEB. After the workshop, delegates from APEC economies were arranged to visit a nearly zero energy pilot building project undertaken by the CABR.

亞太經濟合作組織零耗能建築研討會
APEC Workshop on Net Zero Energy Building

2013新版香港能源最終用途數據已經發行



這數據庫記錄全港在2011年間一共使用了 278,618 太焦耳。當中四大類別 - 住宅、商業、工業及運輸業分別使用了21%，42%，5%和32%。和往年比較，按人口平均計算的能源最終用途量在2011年間錄得約0.08%的跌幅，由2010年間的每人39.43千兆焦耳跌至2011年間的39.40千兆焦耳。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2010年的150太焦耳下跌至2011年的144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，有興趣的讀者可由以下網址免費下載更加詳細的數據：

New 2013 edition of the Hong Kong Energy End-use Data has been published

In 2011, 278,618 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 21%, 42%, 5% and 32%. Compared with the previous year, the consumption per capita recorded a slight decrease of about 0.08%. It dropped from 39.43 TJ/capita in year 2010 to 39.40 TJ/capita in year 2011. From the gross domestic product perspective, the consumption continued to decline in the recent years. It dropped from 150 TJ/ Billion HK dollar in year 2010 to 144 TJ/ Billion HK dollar in year 2011. 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/HKEEUD2013.pdf

聯絡資料 Contact

任何人士如欲就本通訊提出意見或詢問，請與我們聯絡，資料如下：
香港九龍啟成街3號 機電工程署能源效益事務處
電話：(852) 2808 3465 傳真：(852) 2890 6081 電郵：eepublic@emsd.gov.hk
Anyone wishing to offer comments or make enquiries about this newsletter can contact us at:
Energy Efficiency Office, Electrical and Mechanical Services Department, 3 Kai Shing Street, Kowloon, Hong Kong
Tel: (852) 2808 3465 Fax: (852) 2890 6081 Email: eepublic@emsd.gov.hk

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