

# EnergyWits

## 智能

# 9

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# 建議的強制性 能源效益標籤計劃

## The Proposed Mandatory Energy Efficiency Labelling Scheme

政府建議推行強制性能源效益標籤計劃(標籤計劃)，作為持續推廣善用和節省能源的一項措施。根據建議的強制性標籤計劃，擬供應在本港使用的指定產品須貼上能源標籤，讓消費者得知有關產品的能源效益表現。我們會分階段把耗用能源的產品納入強制性標籤計劃內。在首階段，強制性標籤計劃涵蓋的產品包括冷氣機、雪櫃及緊湊型熒光燈(慳電膽)。

在現行的自願參與標籤計劃中，這三類指定產品的參與率極高，但仍有一定數目的型號沒有申請貼上能源標籤。因為這三類產品的用電量甚高(合共佔住宅用電量的7成以上)，我們估計就這三類產品推行強制性標籤計劃後，每年可多節省約1.5億度電(相等於約1.35億元電費)。就環境方面的益處而言，每年可減少排放105,000公噸二氧化碳。

我們曾在去年7月至10月期間就建議的強制性標籤計劃進行公眾諮詢，以蒐集公眾對此項建議的意見。我們收到不少正面的回應，大部分均對計劃表示支持。我們考慮過在公眾諮詢期內收到的意見和建議後，現正就推行強制性標籤計劃草擬立法建議。



As part of the ongoing efforts to promote the efficient use and conservation of energy, the Government proposes to introduce a mandatory energy efficiency labelling scheme (EELS). Under the proposed mandatory EELS, energy labels are required to be shown on specified products for supply for local use in Hong Kong to inform consumers of their energy efficiency performance. The inclusion of energy-using products into the mandatory EELS will be implemented in phases. In the initial phase, the mandatory scheme will include room coolers, refrigerators and compact fluorescent lamps.

The three specified products have high levels of participation in the existing voluntary EELS. Notwithstanding this, there still exist a certain percentage of models which do not bear energy labels. With the implementation of the mandatory EELS for the three specified products, it is estimated that an additional electricity saving of 150 GWh per year could be achieved because of the high energy consumption of these products (altogether accounting for over 70% of the electricity consumption in the residential sector). The estimated energy saving is equivalent to a monetary saving of \$135 million in electricity bill per year. In terms of environmental benefits, an annual reduction of carbon dioxide emission of 105,000 tonnes will be achieved.

A three-month public consultation on the proposed mandatory EELS was carried out from July to October last year in order to collect views from the public. Positive feedback and majority support of the scheme were received. Taking into account comments and views received during the public consultation, we are now working on a legislative proposal for the introduction of the mandatory scheme.

### 網上申請服務

為向業內人士提供更優質的服務，能源效益事務處會在今年提供全新的網上申請服務。該項服務的範圍包括能源效益標籤計劃及建築物能源效益註冊計劃。除可透過郵遞、傳真或電郵提出申請外，申請人亦可登上本署網頁，透過互聯網提出申請。

### Online Application Service

In order to provide a better service to trade members, EMSD will launch a new online application service for registration under the Energy Efficiency Labelling Scheme (EELS) and Energy Efficiency Registration Scheme for Buildings (EERSB) this year. Apart from submitting applications by post or facsimile or email, applicants will be able to submit their applications online via the EMSD website or download the application forms from our website.

# 太陽隔熱膜

## Solar Control Window Film

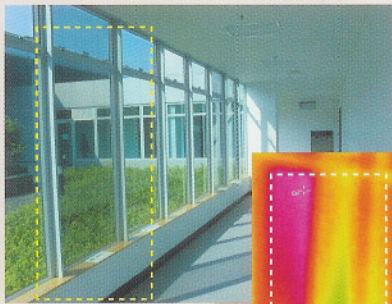


由窗戶傳入室內的太陽熱量約佔了建築物百分之15到20的空調負荷量。太陽隔熱膜能反射透過窗戶進入的陽光輻射熱量。

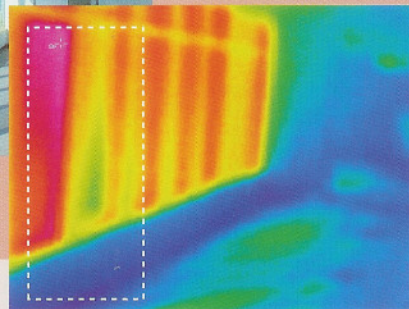
太陽隔熱膜是一塊塗有反射太陽輻射的金屬塗層聚酯膠片。普遍用作塗層的金屬有鈦、銀、銅、鎳等。隔熱膜的隔熱能力主要反映在產品的遮陽系數(SC)\*中。遮陽系數越低，便越有效地反射太陽熱量。

太陽隔熱膜是會減少從室外進入室內的可見光。透光率(Tv)\*代表了能通過窗戶的可見光的百分比。高透光率能讓更多室外光進入室內。最理想的太陽隔熱膜應該是擁有高的透光率同時有著低的遮陽系數。但這樣的產品價錢會較昂貴，所以應在隔熱能力和透光率之間取得平衡。擁有良好觀景的建築物例如櫥窗、咖啡室、高樓大廈等應採用高透光率的產品。

要估計大廈在安裝太陽隔熱膜後的節能效果，通常需要用上電腦模擬計算#，把大廈座向、窗戶面積、現有的遮陽系數、空調系統類型和操作模式等的眾多因素一併考慮。整體而言，在香港氣候環境下，把低隔熱能力的窗戶的遮陽系數降低一半(例如從0.9降至0.45)每年約能節省4% - 5%的用電量。



上圖 — 機電工程署7樓走廊。長方形內的窗戶是裝上了太陽隔熱膜的窗戶。



下圖 — 機電工程署7樓走廊的熱能圖像。長方形內的窗戶是裝上了太陽隔熱膜的窗戶。圖像中的顏色顯示了較少的紅外線透入。

Upper - photo of the corridor with solar film at 7/F EMSD HQ. The rectangle highlights the window with solar control window film.

Lower - the thermal image of the corridor. The rectangle highlights the window with solar control window film. The colour of the image indicates lower infrared penetration.

\*透光率(Tv): 這是可見光能通過窗戶的比例。高透光率，使窗戶看上去更加透明。一般普通玻璃的透光率大約是0.8 - 0.9。  
遮陽系數(SC): 這是太陽熱量通過一個窗戶與通過3毫米玻璃的比例。低遮陽系數，提供良好的隔熱能力。一般普通玻璃的遮陽系數大約是0.9。

\*Visible Light Transmittance (Tv) - It is the fraction of visible light transmitted through a window. The higher the Tv value, the more transparent the window film appears. For clear glass, typical value of Tv is about 0.8 - 0.9.

Shading Coefficient (SC) - It is the ratio of solar heat gain through a particular glazing system to solar heat-gain through a single piece of 3 mm thick clear glass. The lower the shading coefficient, the better the solar control capability. For clear glass, typical value of SC is about 0.9.

# 比重因子法是眾多計算即時空間顯熱量模擬方法的其中一種。它包含2個步驟。第1個步驟是計算每一種散熱量在時間θ所需的冷負荷 $Q_{\theta}$ 。計算過程中空氣溫度需保持在一個參考值。

$Q_{\theta} = v_0 q_{\theta} + v_1 q_{\theta-1} + \dots - w_1 Q_{\theta-1} - w_2 Q_{\theta-2} - \dots$  ( $v_0, v_1, v_2, \dots, w_1, w_2, \dots$  等是該散熱量的散熱比重因子)

第2個步驟就是用總冷負荷計算實際抽走的熱能和空氣溫度。計算空氣溫度 $t_{\theta}$ 和它在時間θ的參考值公式如下：

$$t_{\theta} = 1/g_{\theta} + [(Q_{\theta} - ER_{\theta}) + P_1(Q_{\theta-1} - ER_{\theta-1}) + P_2(Q_{\theta-2} - ER_{\theta-2}) + \dots - g_1 t_{\theta-1} - g_2 t_{\theta-2} - \dots]$$

( $ER_{\theta}$  是空調系統在時間θ的能源抽出率。 $g_0, g_1, g_2, \dots, P_1$  and  $P_2$  是空氣的比重因子。)

# Weighting-Factor Method is one of the many modeling methods for calculating instantaneous space sensible load. It is a 2-step process. In the first step, cooling load  $Q_{\theta}$  at time  $\theta$ , for each type of heat gain  $q_{\theta}$ , is calculated with the room air temperature fixed at some reference value.

$Q_{\theta} = v_0 q_{\theta} + v_1 q_{\theta-1} + \dots - w_1 Q_{\theta-1} - w_2 Q_{\theta-2} - \dots$  where  $v_0, v_1, v_2, \dots, w_1, w_2, \dots$  are heat gain weighting factors for the type of heat gain under consideration.

In the second step, the actual heat extraction rate and air temperature are calculated using the total cooling load. Deviation of air temperature  $t_{\theta}$  from the reference value at hour  $\theta$  is calculated as:

$$t_{\theta} = 1/g_{\theta} + [(Q_{\theta} - ER_{\theta}) + P_1(Q_{\theta-1} - ER_{\theta-1}) + P_2(Q_{\theta-2} - ER_{\theta-2}) + \dots - g_1 t_{\theta-1} - g_2 t_{\theta-2} - \dots]$$

where  $ER_{\theta}$  is the energy removal rate of the air-conditioning system at hour  $\theta$  and  $g_0, g_1, g_2, \dots, P_1$  and  $P_2$  are air temperature weighting factors.

# 生命週期能源評估

## Life Cycle Energy Assessment (LCEA)

生命週期能源評估是一套以系統方法去評估建築物包括設備元件、建築物的建造、操作及拆卸過程中對環境和成本的影響。

### 什麼是生命週期評估？

生命週期評估是一套客觀方法用以評估樓宇建造對環境做成的負擔。該方法首先找出和量化樓宇建造所需的能源及物料繼而評估它們對環境的衝擊，從而發掘和評估可以改善環境的機會。

### 什麼是生命週期成本？

生命週期成本是把現時及日後的開支折換成現值總額，其中包括建造或購置樓宇及其生命週期內所需的各種運作和保養的費用。

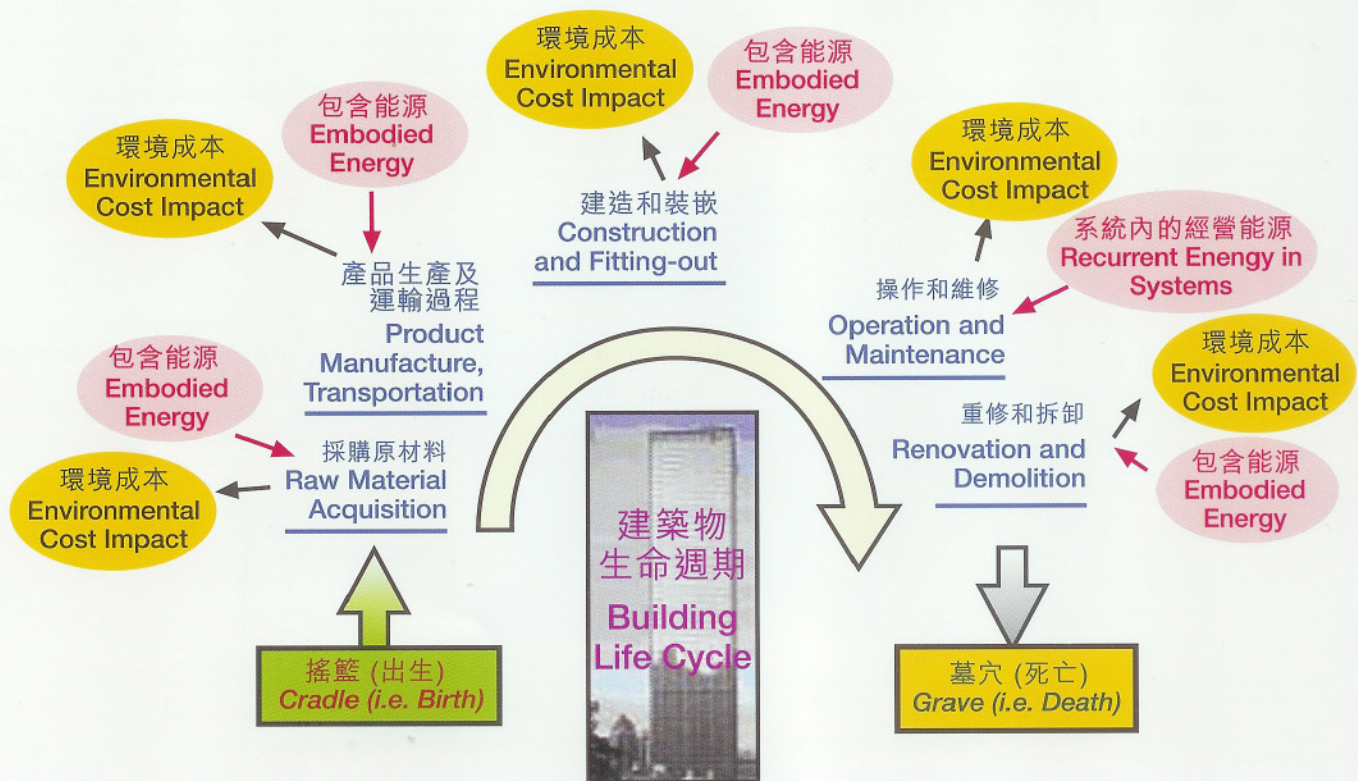
LCEA is a kind of methodology for assessing the environmental impacts and cost implications of a building, including its service components, over its construction, operation and demolition phases.

### What is LCA ?

LCA, Life Cycle Assessment, is an objective method that evaluates the environmental burdens associated with the construction of a building by first identifying and quantifying the energy and materials used and then evaluating their environmental impacts. LCA helps discover opportunities for improving the environment and evaluate the opportunities found.

### What is LCC?

LCC, Life Cycle Cost, determines the present value of the current and future expenditures for the procurement, operation and maintenance of a building throughout its life.



機電工程署開發了一套易於使用的生命週期能源評估軟件工具，有助建築物設計者對商業樓宇的生命週期評估、生命週期成本和其能源消耗作出分析。設計者亦可藉此軟件挑選有利環保的物料及設計方案。

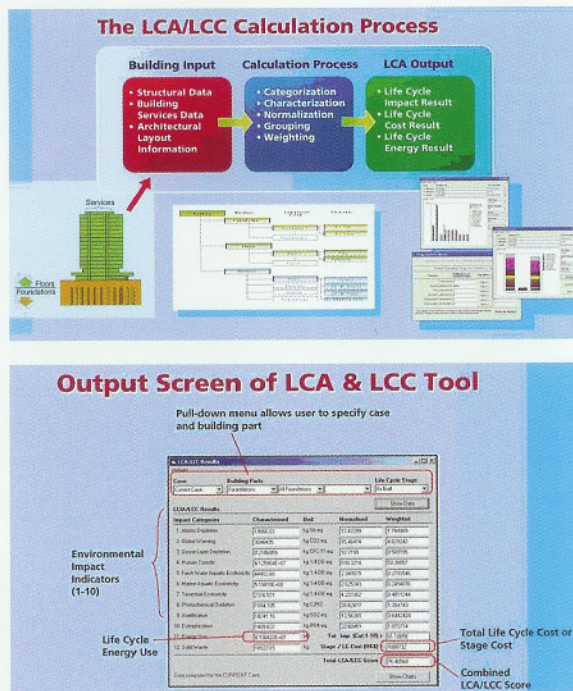
EMSD has developed a user friendly software design tool, the LCEA software tool, which facilitates building designers' conduction of energy analysis and quantitative analysis on the LCA and LCC of commercial building developments. The tool also helps them to select environmental friendly materials and design options.

使用軟件工具，首先需要輸入建築物的結構、屋宇裝備和建築元件的用量數據後，軟件工具便會進行各種分類法、特性法、標準法、分組法和衡量法等運算，從而計算出生命週期評估、生命週期成本和能源分析的結果。

使用者亦可利用這套軟件互相比較各種擬訂和參考設計方案。透過這個比較功能，使用者便可以在設計階段中優化建築物和系統，然後選擇出最合適和最有利的可持續發展方案。

生命週期能源評估軟件工具現在可於機電工程署的網站 [www.emsd.gov.hk](http://www.emsd.gov.hk) 下載。

After inputting the material usage data of a building including its structural, building services and architectural layout elements, the software tool will go through the process of categorization, characterization, normalization, grouping and weighting. It will then yield the building's LCA, LCC and energy analysis results.



The LCEA software tool allows users to compare design proposals with a reference design. Users can use this function to optimize building and system designs at the design stage and find out the most suitable and sustainable solutions.

The LCEA Software Tool is now available at EMSD web-site : [www.emsd.gov.hk](http://www.emsd.gov.hk) for free trial.

## 機電工程署參與二〇〇五年世界可持續發展建築會議 EMSD Participating in the 2005 World Sustainable Building Conference

機電工程署於九月在東京舉行的二〇〇五年可持續建築會議中，向來自世界八十多個國家的一千七百個建築界專業人士、政府官員和學者，介紹了能源效益事務處最近完成的生命週期能源評估軟件工具及香港建築物能源效益註冊計劃。

The World Sustainable Building Conference, was held in Tokyo in September 2005. EMSD took this opportunity to introduce the LCEA software tool and Hong Kong Energy Efficiency Registration Scheme for Buildings to over 1,700 participants including professionals from the building industry, government officials and academics from over 80 countries.



會議中的香港展覽攤位（左）及機電工程署展板（右）  
Hong Kong's booth in the Conference (left) and the display board of EMSD



房屋及規劃地政局局長孫明揚先生（中）與機電工程署助理署長黃達平先生（左）及能源效益事務處同事（右）在會議中合影  
Mr Michael Suen, Secretary for Housing, Planning & Lands (centre), Mr Eric Vy, our Assistant Director (left), and a colleague from the Energy Efficiency Office of EMSD (right) at the conference

# 照明系統簡易更新方法

## Lighting Retrofit in a Simple Way

在香港，除了新落成的現代建築物外，大部份的建築物仍採用能源效益比較低的T8光管甚至較為「圓胖」的T12光管。我們建議用能源效益較高的T5光管來替代這些舊式的光管。但若不想把整套照明系統更換，業主可考慮下列3項照明系統更新科技。這3項新科技包括「隨裝隨慳」、「亮度調正」和「光源導向」都是一些簡單而有效的光管更新方法。

### 「隨裝隨慳」

這科技適用於一些用舊式鎮流器即電磁鎮流器的照明系統。「隨裝隨慳」科技透過「仿電子鎮流器」、T5光管和簡單的安裝步驟（一般不須要改裝內部線路），去節約能源。「仿電子鎮流器」是一個電子元件，其作用與電子鎮流器相似，但必需與一個電磁鎮流器串聯運作，才能生效。

下面的圖表取材自一個應用了「隨裝隨慳」科技的個案，列出在不同階段所測量的照明亮度水平結果。

In Hong Kong, other than the recently-built modern buildings, most of the buildings are still using the "less energy efficient" T8 fluorescent tubes or even the "fat" T12 tubes. It is recommended to replace these "old-fashioned tubes" by more energy efficient T5 tubes. However, if total replacement is not desired, building owners may consider the following three types of lighting retrofit technologies. The three technologies that are emerging from the market including "Plug and Enhance" (PnE), "Light Level Abatement" (LLA) and "Re-direction" (RD), are all simple and effective lighting retrofitting approaches.

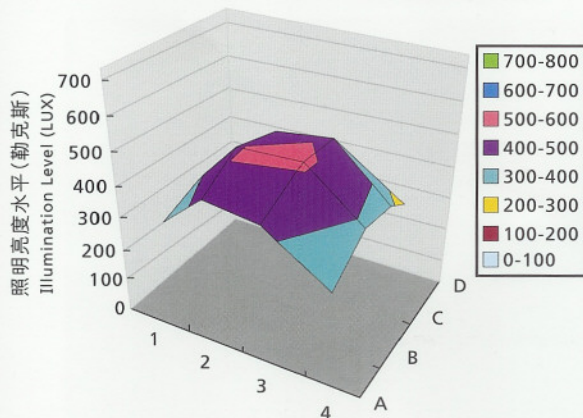
### Plug and Enhance (PnE)

This technology is suitable for cases where existing lighting is equipped with "old-fashioned" electromagnetic ballasts. PnE technology reduces energy input through simple installation steps, quasi-electronic ballasts (QEBs) and T5 tubes. Normally no wiring modification is required. QEB is an electronic device which, when operating in series with an electromagnetic ballast (EMB), will effectively function as an electronic ballast (EB).

The graphs below show the lighting level measurements taken in one case where PnE technology was applied:

更新前的表現

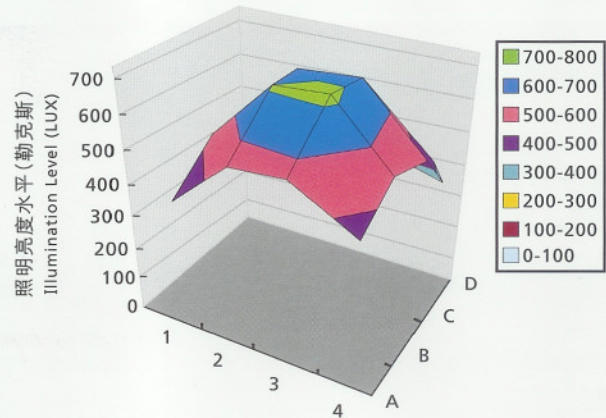
Performance Before Retrofit



平均照明亮度水平: 448 勒克斯 照明設備總功率: 514 瓦  
Average Lighting Level: 448 LUX Lighting Power: 514 W

操作500小時後的表現

Performance After 500+ Hours

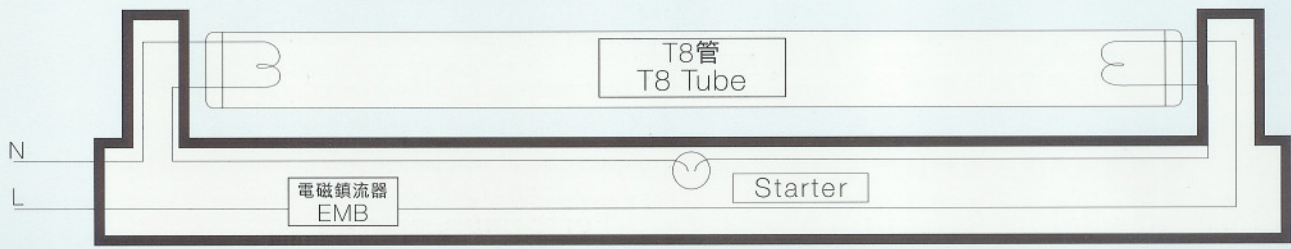
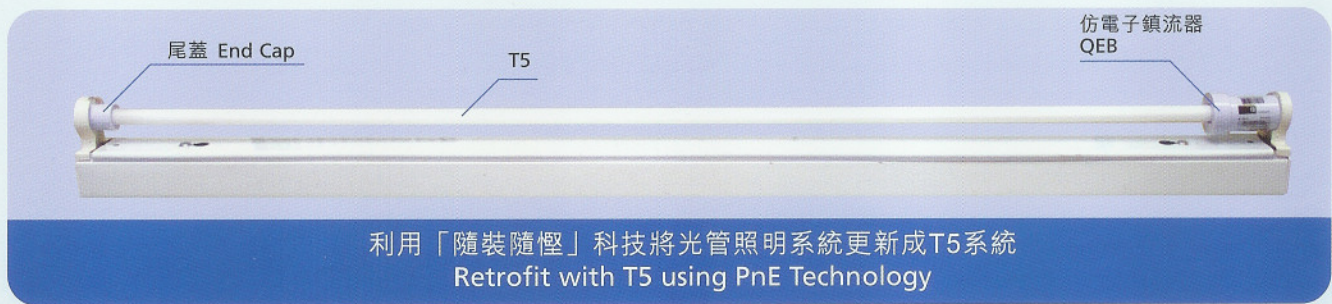


平均照明亮度水平: 526 勒克斯 照明設備總功率: 342 瓦  
Average Lighting Level: 526 LUX Lighting Power: 342 W

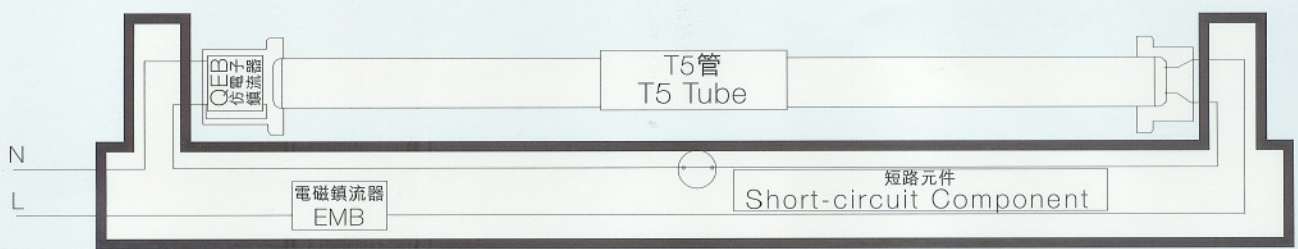


「隨裝隨慳」科技可節省照明所須能源約18%至33%。投資回本期約在1.8年至3.5年間

PnE technology can save lighting energy by 18% to 33%. The payback period for PnE devices lies between 1.8 and 3.5 years.



傳統的T8管和電磁鎮流器裝置  
Conventional T8 Tube and Electromagnetic Ballast



「隨裝隨慳」科技的電路圖  
Circuit Diagram for PnE Technology

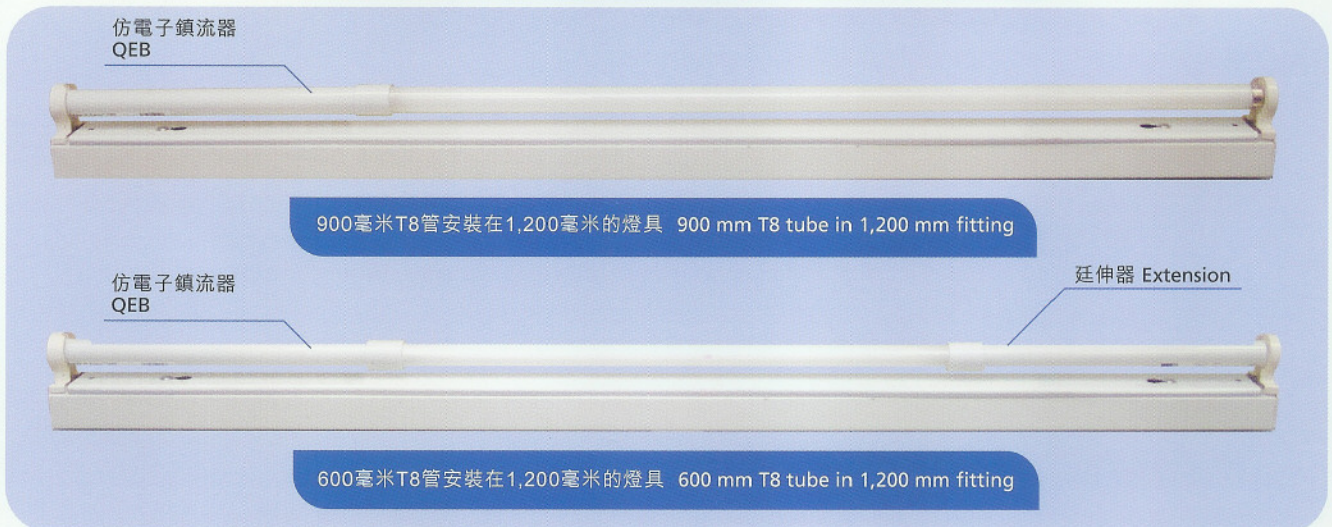
## 「亮度調正」

照明亮度水平過高的場所最適合採用「亮度調正」科技。這項照明系統更新科技是不需要更換整套燈具的，只需用一支較短但配有仿電子鎮流器和延伸器的光管來取代舊管便可。「亮度調正」科技能使場地照明亮度調低25%至55%，從而節能約29%至60%。成本回收期介乎1.7至3.5年。

## Light Level Abatement (LLA)

LLA technology is most suitable for over-illuminated premises. Total light fitting replacement is not necessary. The old fluorescent tube will only need to be replaced by a shorter one that has been fitted with a QEB and an extension unit. It will save 29% to 60% of energy and reduce the lighting level by 25% to 55%. The payback period ranges from 1.7 to 3.5 years.

### 亮度調正 "Light Level Abatement" (LLA)

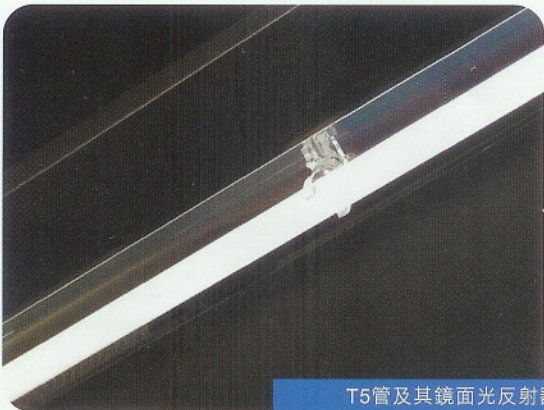


## 「光源導向」

「光源導向」科技主要利用鏡面光反射器把各燈管的光線集中反射到工作平面，以增加照明亮度。這科技適用於外置的光管，能為多燈管燈具的照明系統提供了拆減燈管的可行性從而節能高達33%。成本回收期約為3.0到3.6年。

## Re-direction (RD)

RD technology mainly makes use of reflectors to direct light output from a tube towards a working plane to increase the illumination level. For cases of bare lighting, RD provides opportunity to de-lamp multi-tube luminaires and save as much as 33% of energy with a payback period of 3.0 to 3.6 years.



T5管及其鏡面光反射器  
T5 tube with reflector



# 冷卻塔先行性計劃的發展

## Development of Pilot Scheme for Cooling Towers

冷卻塔先行性計劃(先行性計劃)的發展仍在不斷檢討中，在2005年4月1日先行性計劃工作小組把選定地區增加至71個及於2005年12月1日擴大選定地區至75個。

在2005年，該計劃的申請數目和落成的宗數也有很大的升幅。直至2005年12月，申請和落成總數分別已達199宗及39宗，較2004年底的131宗及22宗，增幅達52%和77%。

時代廣場的空調系統改換工程是目前先行性計劃中的最大項目。於2004年，時代廣場有限公司把氣冷式空調系統，(包括28個乾式冷卻器)，更換成只有9個各3,336瓩冷卻容量的淡水冷卻塔的水冷式空調系統。時代廣場有限公司的謝加利先生，亦被邀請參加2005年10月在機電工程署舉辦的「2005年冷卻塔經驗分享座談會」與各與會者分享他在這項目上的心得。他特別指出，更換空調系統後換來以下節省能源的效益：

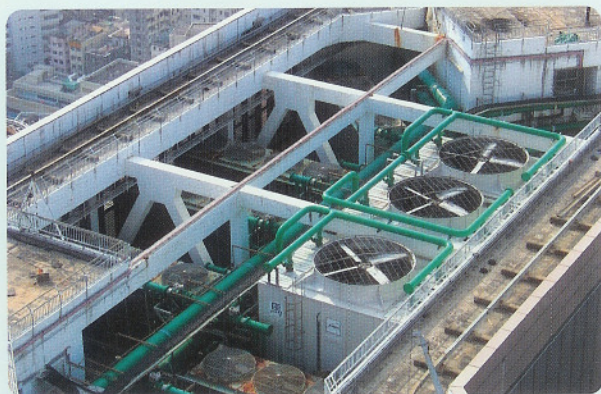
- 節省達86%的冷凝水系統能源
- 節省達23%高峰期的冷凍機組能源
- 節省達22%平均每月空調機組能源
- 降低炎夏時的冷凝水溫度8°C

除了上述的能源效益，他亦提到以下環境問題上的改善：

- 減低天台樓層的空氣載送噪音33分貝
- 免除辦公大樓頂層的結構載送噪音

如欲查詢先行性計劃的選定地區，可瀏覽本署的網址：

<http://www.emsd.gov.hk/emsd/chi/pee/wacs.html>。



時代廣場天台上的冷卻塔  
Cooling Towers on the Roof of Times Square

The development of the Pilot Scheme for Cooling Towers (Pilot Scheme) is continuously being reviewed. On 1 April 2005, the Pilot Scheme's Working Group enlarged the scope of the scheme to a total of 71 designated areas and further expanded it to a total of 75 designated areas on 1 December 2005.

In 2005, there was also a huge leap in the number of applications and cases of completion. Up to December 2005, the total number of applications and cases of completion reached 199 and 39 respectively. Comparing these 2005 figures with the 2004 year-end total of 131 applications and 22 cases of completion, 2005 achieved a growth of 52% and 77% respectively.

The Times Square air-conditioning systems replacement project is so far the largest one under the Pilot Scheme. In 2004, the Times Square Limited replaced their air-cooled air-conditioning systems, which comprised 28 units of dry radiators, with 9 fresh water evaporative cooling towers each of 3,336kW cooling capacity.

In the Cooling Tower Experience Sharing Seminar organized by EMSD in October 2005, Mr. Gary Tse of Times Square Limited was invited to share with the audience about the project. He specifically pointed out the following energy savings resulting from the replacement:

- Save up to 88% energy of condensing water system
- Save up to 23% energy of chillers during full load period
- Save up to 22% monthly-average energy of air-conditioning plant
- Lower condensing water temperature by 8°C in hot summer

In addition to the above energy savings benefits, there are also the following noise mitigation benefits:

- Air-borne noise at roof level is reduced by 33 dBA
- Structural-borne noise at top floor of office towers is eliminated

If you would like to know the designated areas of the scheme, please visit our website at the address: <http://www.emsd.gov.hk/emsd/eng/pee/wacs.html>.

空調系統的能源消耗量  
Energy Consumption of Air-conditioning System



# 教育徑 Education Path

環境運輸及工務局局長廖秀冬博士於2005年10月18日為九龍灣機電工程署新總部大樓的展覽館主持開幕儀式。教育徑旨在推廣能源效益及可再生能源科技，並利用互動式展品介紹機電工程署的工作及其在可持續發展上的措施和活動。教育徑設有兩個展覽館及一個天台觀景台。大家可從觀景台觀賞到超過2,000塊覆蓋了整個10,000平方米天台的光伏板。

The Secretary for the Environment, Transport and Works Bureau, Dr. Sara Liao, officiated at the opening ceremony of the Exhibition Gallery at the new Kowloon Bay headquarters of the Electrical and Mechanical Services Department (EMSD) on 18 October 2005. The Education Path is intended to promote awareness of energy efficiency and renewable energy technologies and to introduce the work of EMSD and its initiatives on sustainable development through the use of interactive exhibits. It comprises 2 exhibition galleries and a rooftop viewing gallery that offers a breathtaking view of an array of over 2,000 photovoltaic panels covering the entire 10,000m<sup>2</sup> roof.



機電安全和能源效益短片  
E&M Safety and Energy Information Show



節能遊戲  
Energy Saving Game

地下的展覽館設有17件互動式展品，就能源問題、可再生及清潔能源科技、節能計劃、節能屋宇裝備項目、能源數據、機電工程署的成就、其歷史和活動等提供全面的資訊。

There are 17 nos. of interactive exhibits in the exhibition gallery on the ground floor. The exhibits provide comprehensive information on energy issues, renewable and clean energy technologies, energy efficiency schemes, energy efficient building services features, energy data, EMSD's achievements, history, initiatives, etc.



展品介紹節能燈  
Exhibit on Energy Saving Lighting

7樓的展覽區設有4件展品，用作介紹機電工程署在電氣安全、機動遊戲機安全、氣體安全以及升降機和自動梯安全方面的工作。

The exhibition area on 7/F contains 4 nos. of exhibits to introduce the work of EMSD in electrical, amusement rides, gas and lifts and escalators safety.



在短短4個月內，已有超過50個團體逾1,200名參觀者參觀過我們的教育徑。

In just 4 months time, we already have over 50 organisations comprising over 1,200 visitors visiting our Education Path.

### 導覽活動安排 Arrangement for Guided Tour

我們的教育徑導覽活動是在星期六以每團參觀人數12至50人進行參觀。歡迎各界團體致電 2808 3465或電郵至eepublic@emsd.gov.hk向機電工程署能源效益事務處預約。

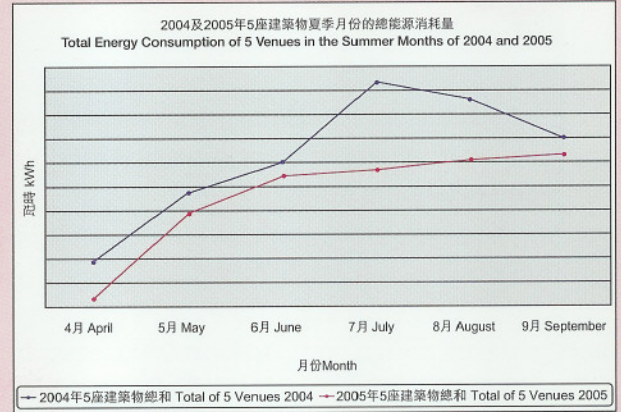
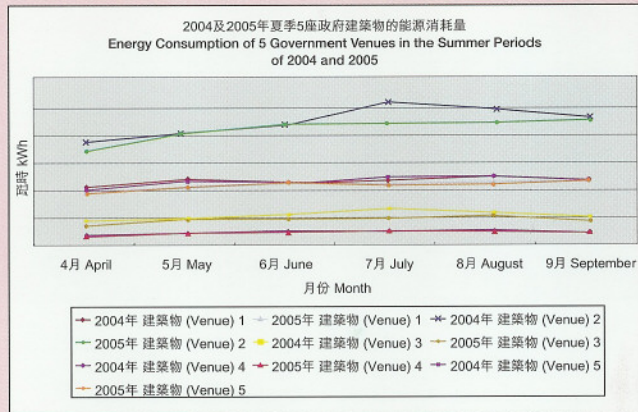
Guided tours on Education Path are conducted on Saturdays with group size in the range of 12 to 50. Group reservation is required to be made in advance by calling the Energy Efficiency Office, EMSD at 2808 3465 or email eepublic@emsd.gov.hk.

在機電工程署總部大樓天台安裝的全港最大型的光伏板裝置 (350瓩) 及風力發電機 (1瓩)  
The largest photovoltaic panel installation in Hong Kong (350kW) and a rooftop wind turbine (1kW) installed on the roof of EMSD Headquarters.



# 政府建築物實施室溫 25.5度的良好效果

## Implementation of 25.5°C Initiative in Government Venues



在2004年10月，環境運輸及工務局要求所有政府的政策局和部門在夏季月份把有空調的處所的室溫維持在攝氏25.5度，旨在達到能源效益和節能的效果。

為了評估這個攝氏25.5度措施的成效，在2005年的夏天，機電工程署在五個分別位於香港不同地方的政府建築物進行了一項詳細的研究。

我們比較了這五個建築物其2004和2005年的夏季能源消耗量。比較過程中考慮到各種轉變，包括在天氣、工作日數、總樓面面積、員工人數、運作時間、各種資訊科技及辦公室設備的數量、建築物內的活動和用途上的轉變和其他對能源消耗量有影響的因數。

研究結果顯示，所有五個地點在對影響因數轉變作調整後的能源消耗量都平均減了4.2%。研究結果為推行實施25.5度措施能有效地減低了政府建築物的電力消耗提供佐證。

機電工程署將繼續為各政府政策局和部門提供在調校空調系統上的技術支援，藉此希望在未來夏季月份可以有一個更有能源效益的空調環境。

In October 2004, the Environment, Transport and Works Bureau asked all government bureaux and departments to maintain the indoor temperature of their air-conditioned premises at 25.5°C in the summer months in order to achieve energy efficiency and conservation.

With a view to evaluating the effectiveness of this 25.5°C measure, EMSD performed a detailed study in summer 2005 at five government venues located at various places throughout Hong Kong.

We compared the energy consumption of each of the venues between the summer months of 2004 and 2005, taking into account the changes in weather, working days, gross floor area, number of staff, working days, number of IT and office equipment, activities or premises usage and other factors that would result in a significant change in the energy consumption.

It is observed that after making adjustments for the changes due to those influencing factors, energy saving was achieved in all five venues with an average power reduction of 4.2%. The findings demonstrated that the implementation of the 25.5°C initiative had effectively cut down power consumption of government venues.

EMSD will continue to offer technical assistance to government bureaux and departments to fine-tune the air conditioning systems so that an energy-efficient air-conditioning environment can be provided in the coming summer months.

### 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

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

機電工程署  
EMSD

