

# Promotion of Energy Efficiency and Conservation in Hong Kong

*- Experience in Government Departments*

Presentation to  
Hong Kong Institute of Facility Management Limited  
by  
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# About the Energy Efficiency Office (EEO)

- ✦ Established in 1994 within the EMSD
- ✦ To promote energy efficiency and conservation and application of alternative energy in Hong Kong
- ✦ To provide support to policy bureau in monitoring the performance of the power companies
- ✦ To represent Hong Kong in the APEC Energy Working Group and Expert Groups



# 節能十載

A Decade of *Energy Efficiency*  
& *Conservation*

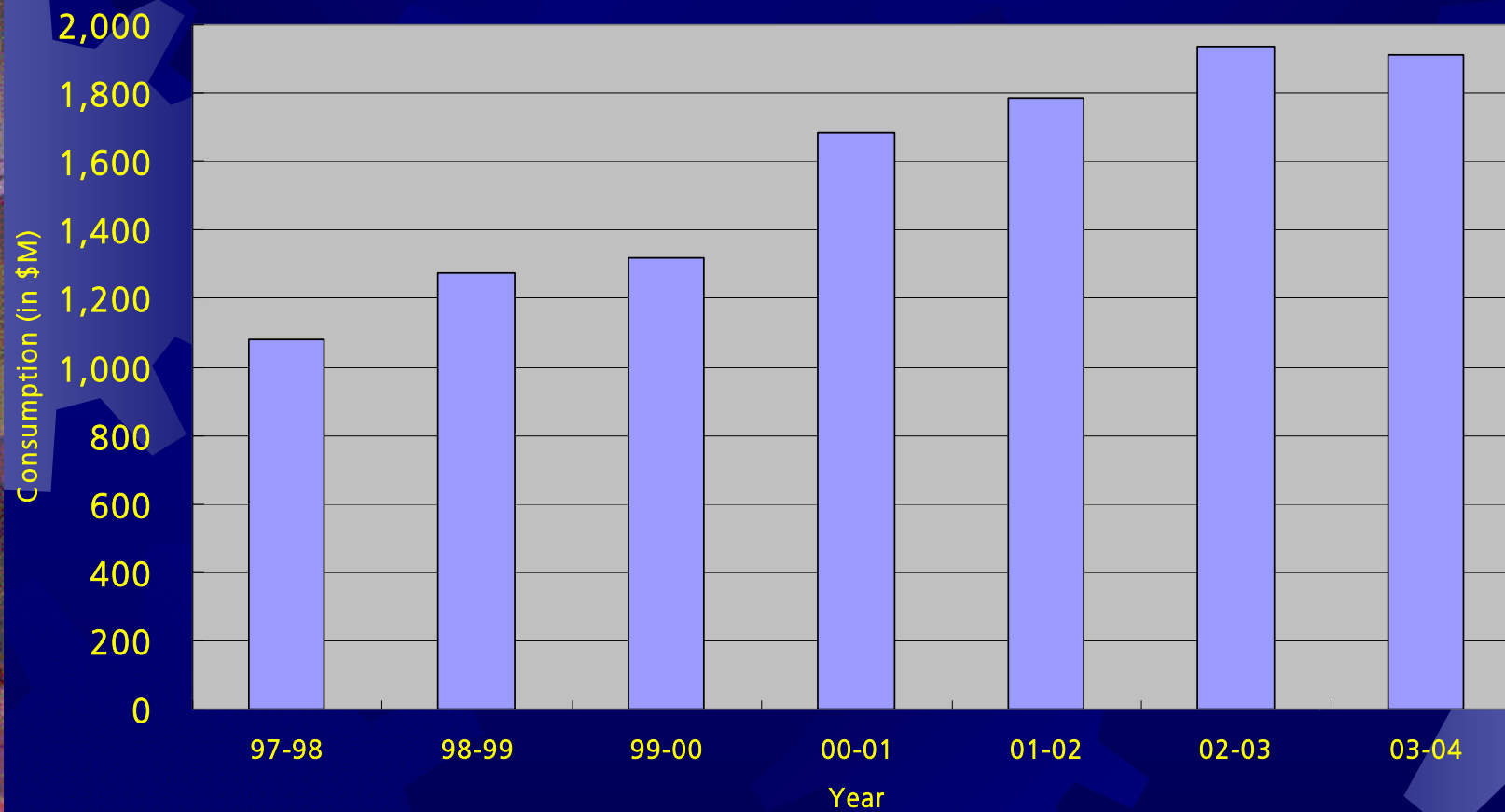
能源效益事務處 Energy Efficiency Office 2004

機電工程署  
EMSD



# Government Expenditure in Electricity

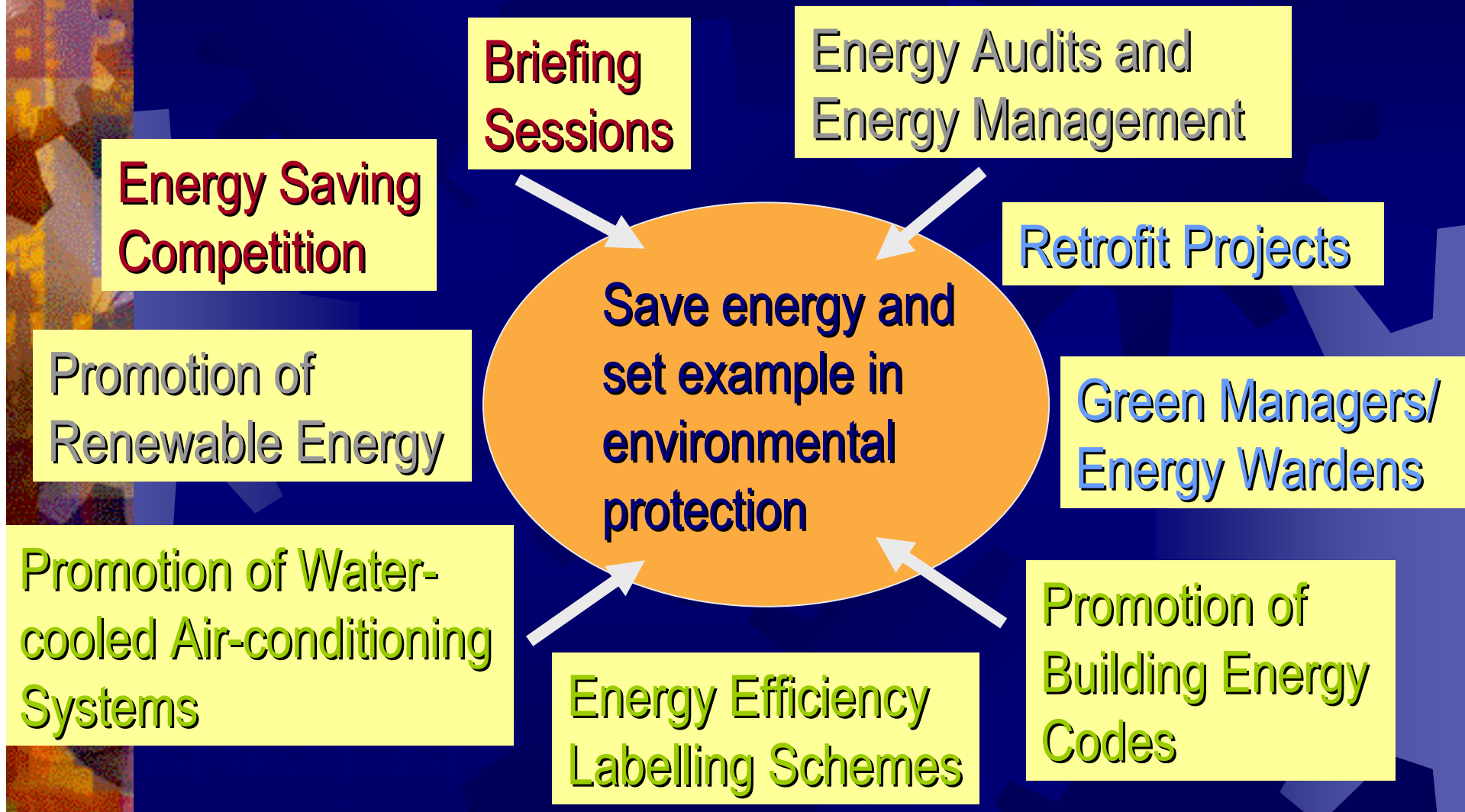
Government Electricity Expenditure (HK\$M)



# Electricity Consumption in Government

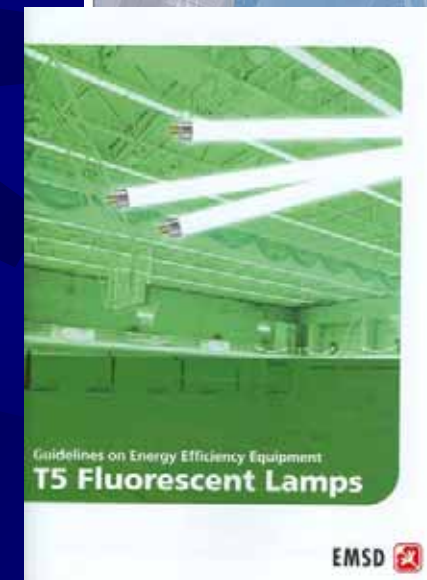
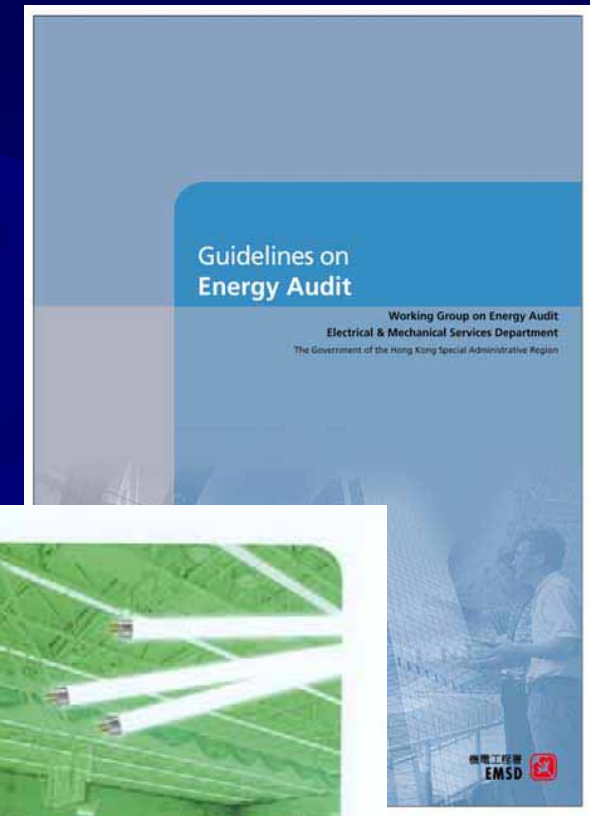
- ✦ Consumption in 2003-04:
  - 2,163 GWh
  - HK\$1,911 M
  - About 5.5% of HK's electricity
- ✦ Electricity consumption in Government almost doubled over 6 years
- ✦ 6% electricity saving target over four years' time

# Energy Saving Work in Government



# Energy Audit

- ★ Publish Guidelines on Energy Audit, and other general tips on conserving energy
- ★ Promote energy management concept
- ★ Conduct energy audit
- ★ Exercise good housekeeping (e.g. A/C temp setting of 25.5°C)
- ★ Invest in physical energy saving measures



# Implementation of Retrofit Measures



# Building Energy Codes

## Building Energy Codes (BECs)

Lighting Code	1/1998
AC Code	1/1998
Electrical Code	3/1999
Lifts & Escalators Code	5/2000
Performance-based Code	3/2003



# Energy Efficiency Labelling Schemes – Energy Labels

## Graded Labels

**ENERGY LABEL**  
能源標籤

Brand 牌子	ABC
Model 型號	某某牌 HK1234
Annual Energy Consumption * kWh/y 每年耗電量 * kWh/y	1200
Energy Efficiency Grade* 能源效率級別	1
Room Cooler Category * 冷氣機類別	1
Cooling Capacity (kW) 製冷量	2.5
Refrigerant 製冷劑	HFC 123
EEL Registration Number 能源標籤登記號碼	C 96-0001

\* The data are provided according to the Hong Kong Energy Efficiency Labelling Scheme for Room Coolers administered by the Electrical and Mechanical Services Department (EMSD), Government of the Hong Kong Special Administrative Region. The registration record can be found at the EMSD website at [www.emsd.gov.hk](http://www.emsd.gov.hk).

資料根據香港特区政府机电工程署执行的香港能源效率標籤計劃的規定列出。有關詳情請可查閱網址 [www.emsd.gov.hk](http://www.emsd.gov.hk)。

機電工程署 EMSD



## Recognition Labels



# EELS – Benefits & Future Development

- Influence the market to phase out appliances of low energy efficiency
- Increase public awareness in purchasing and using more energy-efficient products
- Continue to improve the penetration of EELS
- Consult public on implementation of mandatory EELS

# Water-cooled Air-conditioning

## Pilot Scheme for Wider Use of Fresh Water in Evaporative Cooling Towers

- Launched in 2000, covering 6 designated areas
- Now covers 57 designated areas



# Promotion of Renewable Energy

- ☀ Demonstration BIPV project in Wanchai Tower
- ☀ 350 kW PV system in new EMSD Headquarters
- ☀ Wind measurement projects at five sites



# Increasing Awareness

Conducted a number of briefings to bureaux/ departments on how to achieve energy savings

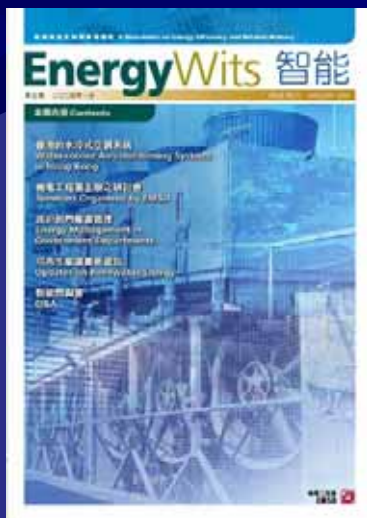


The screenshot shows the EMSD Energy Management Database and Reporting System interface. The main section is titled "Energy Saving Measures" and displays a table with the following data:

Month	Type	New/Rep	Old Item	New Item	Rating (W)	Quantity	Annual Savings kWh	Remarks
04-2003	Change in tariff type	-	Unknown	Unknown			3070	
01-2003	Other energy saving measures	Replace	Unknown	Unknown				Category 1 energy saving measures, such as setting A/C temperature to 24C, and removing unnecessary lighting.
04-1999	Electronic ballast	Replace	Unknown	Unknown		90		
04-1999	Electronic ballast	New	Unknown	Unknown		10		
04-1999	Energy-saving fluorescent	Replace	Unknown	T8		120		

Established an on-line reporting system for gathering electricity consumption data and energy saving measures information

# Issue Energy Saving Guidelines



“EnergyWits”  
newsletter

Energy Saving  
Tips



“EnergyLand”  
educational website

# Energy Saving Competition in Government

- Energy saving competition for government bureaux and department



香港能源效益及節能獎  
HONG KONG AWARDS  
FOR  
ENERGY EFFICIENCY  
& CONSERVATION  
政府機構 IN GOVERNMENT

Star Saver Award  
星加獎牌  
Versus Saver 能源效益及  
節能最佳方法獎

由機電工程署轄下之機電能源效益及節能獎(簡稱機電獎)主辦，目的為鼓勵政府部門及部門轄下的機構爭先創設能源效益的機構，並推廣  
良好節能做法，更鼓勵以節能方法改善其部門。

The Hong Kong Awards for Energy Efficiency and Conservation in Government, organised by the Electrical and Mechanical Services Department, aims to encourage all government bureaux and departments to practice energy conservation and efficiency, and to recognise those who demonstrate significant energy saving, green practices.

獎項分三類(類別):  
The Awards offer recognition in three categories, namely:

- 星加獎牌  
Star Saver Awards
- 綠地獎牌  
Green Saver Awards
- 能源效益及節能最佳方法獎  
Energy Efficiency and Conservation Best Practice Awards

活動時間表 SCHEDULE OF ACTIVITIES

2003年9月 September 2003	比賽簡介及開幕禮 Information sessions and seminars
2003年10月1日 1 October 2003	比賽開始 Competition period begins
2004年9月30日 30 September 2004	比賽結束 Competition period ends
2004年12月 December 2004	頒獎典禮 Prize presentation ceremony

查詢 ENQUIRIES  
查詢詳情請電或親臨下列任何查詢熱線，查詢電話號碼及傳真號碼 2881 1342 或傳真 2882 6469。  
查詢詳情可於機電工程署網頁內之綠地管理項目 (http://www.emsd.gov.hk/awards) 下載。

For Enquiry Forms or any enquiries, please call our hotline 2881 1342 or fax to 2882 6469.  
Detailed information of the Awards can be downloaded from the Green Management section of the CCOD (http://www.emsd.gov.hk/awards).

機電工程署 EMSD

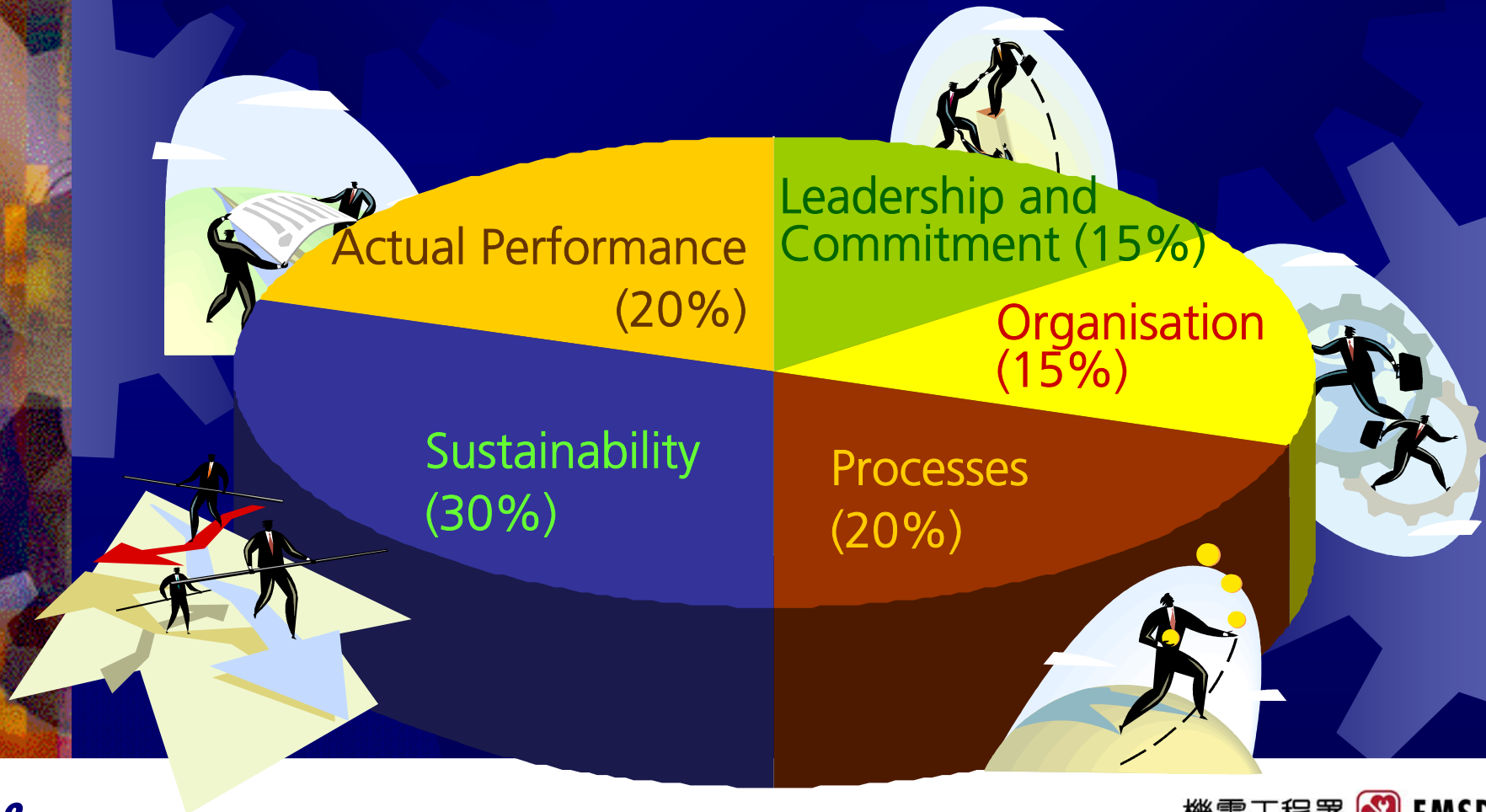
# Highlights of the Competition

- ★ Started in Oct 2003, completed in Sep 2004
- ★ 192 teams participated, representing 48% of government electricity consumption
- ★ Three categories of Awards:
  - Star Saver Awards
  - Venue Saver Awards
  - Energy Efficiency & Conservation Best Practice Awards
- ★ Judging panel comprising members of advisory committee on energy, academia, senior govt. officials, professionals, green group



# Assessment Criteria

## Energy Efficiency & Conservation Best Practice Awards



# Achievements of Participants

- ☀ Saving of top winning team: over 52%
- ☀ Saving of top winning dept: over 10%
- ☀ Overall saving of all participants: 5.9%



# HK Energy Efficiency Awards

- ✦ Private sector competition for :
  - ✦ property management
  - ✦ schools
- ✦ Over 330 entries received
- ✦ Competition period: Dec 04 to Nov 05



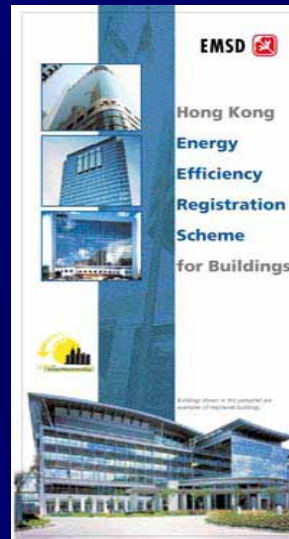
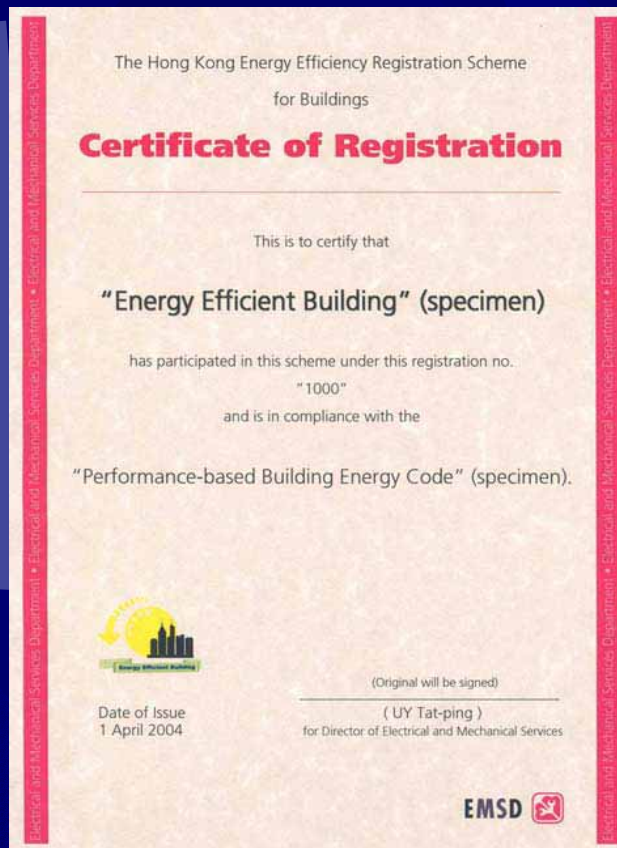
# Concluding Remarks

- ☀ Need to save electricity :
  - to save money
  - to improve air quality
  - to mitigate global warming
  - for sustainable development





# Apply to Register Under the HK Energy Efficiency Registration Scheme for Buildings



**Appendix I – Application Form**

**Submission History**

Please tick appropriate :

This is the first submission.  
 This submission is a revision of previous submission. The reference number of the previous submission is \_\_\_\_\_.

**Part (A) : General Information of Project/Building**

(1) Project Name : \_\_\_\_\_

(2) Building Landlord : \_\_\_\_\_

(3) Project Site Address : \_\_\_\_\_

*(Please attach a site location plan in A4 size)*

(4) Type(s) of Building :  Residential  Commercial Office  Industrial  
 Hotel  Shopping Complex  Education  
 Indoor Sports Complex  Other : \_\_\_\_\_

(5) Gross Floor Area : Residential \_\_\_\_\_ m<sup>2</sup>  
Office \_\_\_\_\_ m<sup>2</sup>  
Industrial \_\_\_\_\_ m<sup>2</sup>  
Hotel \_\_\_\_\_ m<sup>2</sup>  
Shopping Complex \_\_\_\_\_ m<sup>2</sup>  
Educational \_\_\_\_\_ m<sup>2</sup>  
Indoor Sports Complex \_\_\_\_\_ m<sup>2</sup>  
Other \_\_\_\_\_ m<sup>2</sup>

(6) Applicant who intend to comply with the Code of Practice for Energy Efficiency in Air Conditioning Installation, should complete the following :

Air Conditioned Area : Residential \_\_\_\_\_ m<sup>2</sup>  
Office \_\_\_\_\_ m<sup>2</sup>  
Industrial \_\_\_\_\_ m<sup>2</sup>  
Hotel \_\_\_\_\_ m<sup>2</sup>  
Shopping Complex \_\_\_\_\_ m<sup>2</sup>  
Educational \_\_\_\_\_ m<sup>2</sup>  
Indoor Sports Complex \_\_\_\_\_ m<sup>2</sup>  
Other \_\_\_\_\_ m<sup>2</sup>

**The Hong Kong Energy Efficiency Registration Scheme for Buildings** 8



# Thank You

Website: <http://www.emsd.gov.hk>