# 有關節能的網站 k Related Websites

### 能源資訊園地

## **Energyland**

http://www.energyland.emsd.gov.hk

# 環境保護署 ── 同心協力改善環境

**EPD** – "How You can help"

 $http://www.epd.gov.hk/epd/tc\_chi/how\_help/tips\_savearth/save\_energy.html \\$ 

### 水務署 ─ 慳水錦囊

# Water Supplies Department – Water Saving Tips

http://www.wsd.gov.hk/tc/education/water\_conservation/water\_saving\_tips/index.html

## 香港可持續科技網

## **HK Sustainable Technology Net**

http://sustech.emsd.gov.hk

## 港燈 — 慳電錦囊

# **Hk Electric** – Smart Tips for Energy Efficiency

 $\label{lem:http://www.heh.com/hehWeb/CommunityAndEducation/} \\ EnergyEfficiencyAndConservation/SmartTipsforEnergyEfficiency/Index\_zh.htm$ 

# 中電 — 節約能源建議

## **CLP** – Energy Saving Tips

https://www.clponline.com.hk/MyBusiness/EnergyManagement/InformationHub/EnergySavingTips/Pages/Lighting.aspx

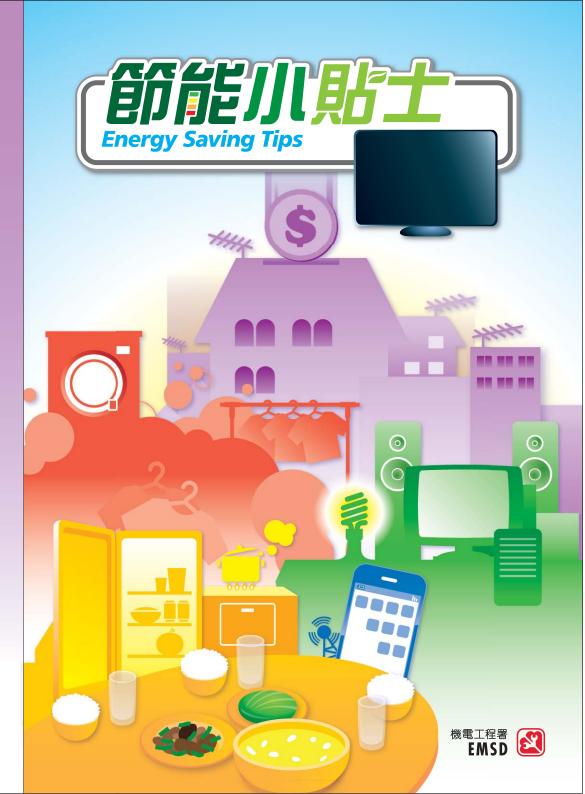


## 機電工程署 能源效益事務處 Energy Efficiency Office

Electrical and Mechanical Services Department

網址Homepage: http://www.emsd.gov.hk 電郵E-mail: eepublic@emsd.gov.hk





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# Fintroduction

這本小冊子<sup>\*</sup>旨在提供家居節約 能源的方法<sup>\*</sup>。

### 一些簡單家居的節能方法:

- 1. 選用具能源效益的電器產品。 (認住能源標籤,貼有「第一級」能源標籤的產品能源效 益最高)。
- 2. 各類電器,在不用時或使用 完畢後,應將電源關掉。
- 3. 選用附有時間掣或自動關機 功能的電器,以免電器長期 停留在備用狀態。
- 4. 在夏天,調校冷氣機並維持 室溫在攝氏25.5度。
- 5. 以具能源效益的燈(如慳電 膽或陶瓷金屬鹵素燈)代替 鎢絲燈。
- 6. 少用熱水作淋浴或清潔用途。
- 7. 電器須定時及在使用前/後清理,以保持最佳能源效益。
- 8. 選用符合家居大小和功能的電器。

This booklet aims to provide tips for saving energy at home.

Some simple energy saving tips at home :

- 1. Use energy efficient appliances. (Look for the energy label "Grade 1" products which are most energy efficient).
- 2. Switch off those appliances that are not in use or after use.
- 3. Use appliances with timer control or automatic power-off function. Do not leave them in standby mode for a long period.
- 4. Set room-coolers to maintain room temperature at 25.5°C in summer.
- 5. Replace incandescent lamps with more energy efficient lamps (e.g. compact fluorescent lamps (CFLs) and ceramic metal halide lamps (CMH)).
- 6. Minimise hot water usage for bathing and cleaning purpose.
- 7. Maintain appliances regularly before or after use for optimal energy efficiency performance.
- 8. Use appliances of appropriate capacity and features best suited for home.



住宅能源使用分佈

Breakdown of Energy Use of a Typical Residence (Average shares of the Home Appliances between year 1999 - 2008)

來源:機電工程署——香港能源最終用途數據 Source:EMSD-Hong Kong Energy End-use Data

- ^ 本小冊子可從以下網址下載 This booklet can be downloaded from this link: http://www.emsd.gov.hk/emsd/e\_download/pee/Energy\_Saving\_Tips\_for\_Home.pdf
- \* 一些節約能源的方法亦適用於辦公室 Some energy saving tips are also applicable to offices.
- #包括洗衣、視聽器材及雜項設備 Include laundry, audiovisual and miscellaneous equipment



# 洗衣機 Washing Machine

- 購買洗衣機時,應選用具能源效益 的型號。貼有「第一級」能源標籤 的洗衣機能源效益最高。
- 應裝滿一機衣物才洗衣,因半機衣物與一機衣物耗用差不多同等電力。
- 根據衣物的質料、顏色及骯髒程度 分類;並選擇合適的洗衣程序 洗滌衣物,慳水又 慳電。
- 儘量採用低溫 洗衣程序,並 且切勿使用過 量洗潔劑。

- Choose energy efficient washing machines. Washing machines with "Grade 1" energy label are most energy efficient.
- Collect a full load of clothes before washing. Washing a half load of clothes consumes almost the same amount of energy as washing a full load of clothes.
- Separate clothes according to fabric, colours and dirtiness; and wash the clothes according to the washing instruction to save energy and water.
- Use a low-temperature wash cycle as far as possible, and don't use too much detergent.

# 乾衣機 Tumble Dryer

- 購買乾衣機時,應選用具能源效益 的型號。
- 儘可能把衣物晾放在戶外,利用陽 光曬乾衣物。
- 在使用乾衣機乾衣前,如先將濕透 的衣物脱水或先在洗衣機採用高速 旋轉的脱水程序脱水,較為節省用 電。
- 每次乾衣前/後應清理 隔棉網,有助保持乾衣 機的效能。

- Choose energy efficient tumble dryers.
- Whenever possible, hang-dry the washing in sunlight at outdoors.
- Remove excess water from clothes or spin dry the clothes at high-speed spin cycle in the washing machine before drying in a tumble dryer can save more energy.
- Clean the lint filter before/after each load that keeps dryers more efficient.

- 切勿使乾衣機負荷過量衣物,因會嚴重阻礙空氣流通並降低乾衣效率。應根據衣物厚度分類,然後逐批進行乾衣,有助提高乾衣效率。
- 選購有濕度感應器和有自動乾衣程 序的乾衣機,可避免乾衣時間過 長。
- 乾衣機停止運轉時,應隨即取出所 有衣物摺好或掛起,以免弄縐,並 且可減輕熨衣工作。

- Do not overload as such will block the airflow and drastically reduce drying efficiency. Sort clothes and other items according to their thickness in batches.
- Purchase tumble dryers of the model with moisture sensor and automatic stop feature to avoid over-drying.
- Remove and fold or hang all items as soon as the dryer stops, to prevent wrinkling and reduce ironing requirements.



# 熨斗 Iron

- 應一次過熨好所有衣物,以免需要 將熨斗再次加熱。
- 使用適當的溫度熨衣物。首先熨需要用高溫熨的衣物,然後是中溫熨的衣物,最後可熄掉熨斗。利用餘溫熨只須低溫熨的衣物,例如絲質的衣物。
- 在完成或需長時間中斷熨衣時,應 關掉熨斗。

- Iron clothes in bulk to avoid frequent reheating of the iron.
- Select the appropriate degree of heat for ironing. Iron clothes that requires high heat first, then medium heat. Switch off the iron and use the residual heat for fabrics requiring low heat like silk.
- Switch off the iron when it is done or not in use for a period of time.





# 雪櫃 Refrigerator

- 購買雪櫃時,應選用具能源效益的型號。貼有「第一級」能源標籤的雪櫃能源效益最高。
- 避免把雪櫃放置於太陽直射的 地方、煮食爐具或其他發熱物 體附近。
- 雪櫃頂部及四周應留有足夠空間散熱,並定期清潔雪櫃櫃背的散熱裝置,以免浪費電力。
- 雪櫃門應經常緊閉,並確保其 密封墊緊貼,避免開門過頻。
- 不要將雪櫃調校至不必要的過 冷溫度。
- 譲食物冷卻至室溫,才放進雪櫃內。
- 雪櫃內不要儲存太多食物。所有儲存的食物應先封存好及排列有序,讓冷空氣可流通無阳。
- 積雪過多會浪費電力,需定期溶雪。
- 出門遠行前應 先清理雪櫃內 一切食物,然 後關掉電源。



- Choose energy efficient refrigerators.
   Refrigerators with "Grade 1" energy label are most energy efficient.
- Place refrigerators away from direct sunlight, cookers, ovens or other heat sources.
- Allocate adequate space at both sides and the top of the refrigerator and regularly clean the condensing coil at the back of the refrigerator to provide better heat dissipation, and avoid consuming more electricity.
- Make sure the doors of the refrigerator are closed and the door seals are tightly fitted. Avoid opening the refrigerator door too frequent.
- Do not set the refrigerator temperature unnecessarily low.
- Allow hot or warm food to cool down to room temperature before putting it into the refrigerator.
- Do not store too much food in the refrigerator.
   Cover all food stored, and arrange them properly so that cold air can circulate freely.
- Defrost the freezer compartment of the refrigerator regularly. Don't let frost built up in the freezer compartment as such will increase energy consumption.
- Empty the refrigerator and switch it off from the power source if going away for a long vacation.

# 煮食爐具 Cookers / Ovens / Hotplates / Kettles

- 選用具風力循環功能的電焗爐 比一般傳統電焗爐更節省能源。
- 選用電磁爐,因為它們的能源 效益比用電熱板為高。
- 應選用能源效益較高的爐具煮 食,例如使用微波爐或烤麵包 爐來烹製少量食物或將食物加 熱。
- 選用多噴嘴式平頭爐/焗爐,因 可利用更靈活的煮食方式來節 省能源。
- 調校爐火以配合鍋底的大小, 爐火超越鍋邊會浪費能源,也 不會提高煮食的效率。
- 選用慢火煮食鍋或慢火爐頭而 非焗爐,來加熱砂鍋及其他食物,可節省大量能源。
- 用電水煲比用煮食爐煲水更節 省能源。煲水不宜過量,足夠 飲用便可。
- 使用有煮沸後會自動關掉功能 的電水煲。毋須使用時,應拔 掉電水煲插頭。

- Choose fan-forced electric ovens can save more energy over conventional electric ovens.
- Use induction cookers as they are more energy-efficient than electric stoves.
- Use efficient appliances like microwave ovens or toaster ovens for cooking and baking in small quantities.
- Use multi-jet cookers/ovens as their versatility can minimise energy wastage.
- Adjust the stove flame to fit the bottom of the cooking pan. Gas flame going up the sides of a pan wastes energy; and will not increase the cooking efficiency.
- Use slow-cook pot or simmer burners rather than ovens to reheat casseroles and other foods can save a great deal of energy.
- Use electric kettles for boiling water are more energy saving than the cookers/hotplates.
   Don't boil water more than required.
- Use electric kettles that can switch off automatically when the water has boiled.
   Unplug the kettle if it is not in use.

# 一般煮食之節約能源提示 General Cooking Hints

- 用壓力鍋煮食不但可節省大約 2/3的烹調時間,而且節省能源。
- 經常使用鍋蓋存熱可節省能源。
- Use pressure cookers can save around 2/3 cooking time, and hence save energy.
- Always cover pans with lids to keep the heat inside to save energy.

- 食物快將煮好前5至10分鐘關掉 焗爐,讓剩餘熱力緩緩完成煮 食工作。預校焗爐時間掣,避 免食物烹調過久和浪費能源!
- 儘量減短焗爐預熱時間。
- 應善用焗爐空間,在同一時間 烤焗多碟食物,或應先行烤焗 需要較高溫煮熟的食物。
- 用膳前過早煮好食物,只會浪 費能源來翻熱及保暖食物
- 應將冷藏食物自然解凍方才烹 者。
- 應選用傳熱性能良好的煮食器 皿。煮食時將烹飪器皿蓋好, 可令食物較快煮熱/煮熟,因而 節省能源。
- 蒸和炒均是節 省能源的煮食 方法。

- Switch off the oven 5 to 10 minutes before cooking is completed. Let the residual heat finish the job. Use the timer wisely to avoid over-cooking and energy wastage.
- Shorten the preheating time of ovens as far as possible.
- Cook several dishes in one session when using the oven, or cook dishes requiring higher temperature first.
- Cook too early ahead of the meal time wastes energy to reheat or keep warm the food.
- Defrost frozen foods in the air before cooking.
- Use cooking utensils that conduct heat well. Foods cook faster with pots and pans lid covered, and hence save energy.
- Steaming and stir-frying is an energy-efficient way of cooking.



- 應儲滿一機碗碟後,才開機 清洗。
- 清洗後,讓碗碟自然風乾, 不必進行乾碗碟程序。



- Wash only with a full load of dishes.
- Air dry dishes instead of using dishwasher's drying cycle.

# 照明 Lighting

- 在不需要時把燈關掉。
- 儘量善用日光。宜選用淺淡及 高反光率的裝修色調以增強室 內光亮度。
- 以具能源效益的燈(如慳電膽 或陶瓷金屬鹵素燈)代替鎢絲 燈。慳電膽比鎢絲燈少用75% 電力,而壽命則平均為6-8倍 或以上。
- 採用工作燈減低一般照明。
- 保持所有窗戶、照明設備 及燈泡潔淨,以達到最高 照明效益。

- Switch off lights that are not in use.
- Maximise daylight usage. Better choose a light coloured, high-reflectivity decoration scheme to enhance the penetration of the light intensity into the room.
- Replace incandescent lamps with more efficient lamps (e.g. CFLs and ceramic metal halide lamps CMH). CFLs use 75% less energy than incandescent lamps, and on average last up to 6 to 8 times or more.
  - Use task lighting to minimise general liahtina.
  - Keep all windows, light bulbs and light fittings clean to maximise lighting efficiency.

#### 冶氣機 Air Conditioners

- 購買冷氣機時,應選用具能源 效益的型號。貼有「第一級」 能源標籤的冷氣機能源效益最
- 儘可能使用電風扇代替冷氣機。 附有時間掣開關的電風扇更佳。
- 在夏天,調校冷氣機並維持室 溫在攝氏25.5度。
- 常清潔冷氣機隔塵網。清除冷 氣機通風口(即入氣及排氣口) 的障礙物。

- Choose energy efficient air conditioners. Air conditioners with "Grade 1" energy label are most energy efficient.
- Where possible, use electric fans, better with a timer control, instead of air conditioners.
- Set the air conditioner to maintain room temperature at 25.5°C in summer.
- Clean the filters of air conditioners regularly. Remove obstructions at air vents (i.e. air inlets and outlets) of air conditioners.

- 冷氣機開著時應保持門窗關 上,並拉上窗簾,以阻隔陽 光直射室內來減低冷氣負荷。
- 關掉不必要的燈飾和發熱電器以減低冷氣負荷。
- 使用完畢後,立即關掉冷氣機。
- Keep the windows and doors closed when the air conditioner is turned on and use curtains or blinds to shade against sunlight, to reduce air-conditioning load.
- Switch off lighting and heat-producing appliances that are not in use to reduce air-conditioning load.
- Switch off air conditioners that are not in use.

# 吸塵機 Vacuum Cleaner

- 應在掃帚或地拖無法有效 清理地方時才使用吸塵機。
- 定期清潔及更換隔塵袋和 過濾網,有助保持吸塵機 的效能。

- Use vacuum cleaners only when brooms or damp mops could not do the job effectively.
- Regular cleaning or replacing dust bags and filters keeps vacuum cleaners in good condition.

# 熱水爐 Water Heater

- 儘量使用即熱式熱水爐。如 必須採用儲水式熱水爐,應 選用具有能源效益的型號。
- 如用儲水式電熱水爐,應選 擇儲存容量適合家庭需要的 儲水式電熱水爐。
- 熱水爐於用完後應即時關掉, 或裝置時間掣定時關掉。
- 儘量調低熱水爐水溫,尤其 是在夏天。

- Use instantaneous water heaters as far as practicable. Otherwise, use energy efficient storage type water heaters.
- For storage type water heater, choose one with the right storage capacity and a wide range of temperature control for the family needs.
- Switch the water heater off after use or install a timer control to switch it off.
- Set the water temperature of the water heater to the lowest acceptable level, especially in summer.

- 熱水爐應儘量安裝於靠近水龍 頭的位置。
- 花灑淋浴比浴缸浸浴可節省 50%的熱水和能源。
- 如非必要,使用冷水代替熱水。

低流量式花灑頭亦可 慳水兼節約熱能。

- Install the water heater as close as possible to the taps.
- Take showers instead of baths uses 50% less hot water and energy.
- Use cold water where hot water is not absolutely necessary.
- Use a low-flow shower head also saves water and heating energy.

# 電暖爐 Electric Heater

- 視乎房間大小,選擇合適功率的暖爐。
- 選用暖風機,因為它們傳送暖氣的效率比一般暖爐為佳。
- 儘量縮小需要暖氣的範圍,並 須確保門窗關妥,以免虛耗暖 氣。
- 在考慮使用暖爐前,先穿著多 些保暖衣物及防止冷風進入室 內。
- 選用有溫度調節和時間掣的暖爐以免虛耗能源。並經常保持室溫於適當度數。
- 外出前十五至三十分鐘關掉暖爐。

- Choose heaters of appropriate rating for the rooms.
- Use forced draft heaters as they distribute warm air more efficiently than other electric heaters.
- Confine the area to be heated. Close the doors and windows of the area being heated to prevent heat loss.
- Put on warmer clothes and prevent draught of cold air from entering the rooms before considering to use heaters.
- Use heaters with thermostat and timer controls to reduce energy consumption. Keep the thermostat controls at a reasonable setting.
- Switch off the heater about 15 30 minutes before going out.

# 抽濕機 Dehumidifier

- 購買抽濕機時,應選用具能源效益的型號。貼有「第一級」能源標籤的抽濕機能源效益最高。
- 選用附有自動抽濕模式的抽濕機,以避免浪費能源。
- 將抽濕機放置於空氣流通的地方,避免放在死角,並要有足夠 散熱空間,及避免出風和回風位 受阻,以達至理想的抽濕效果。
- 使用抽濕機時,應將門窗關上。
- 應經常清潔空氣過濾網 和冷凝器,有助保持抽 濕機的效能。

- Choose energy efficient dehumidifiers.
   Dehumidifiers with "Grade 1" energy label are most energy efficient.
- Choose dehumidifiers that have automatic dehumidifying mode to prevent unnecessary energy wastage.
- Place the dehumidifier in a well-ventilated area and away from corners. Do not obstruct the air outlets and returns for optimum performance.
- Keep the windows and doors closed when the dehumidifier is ON.
- Clean the filter and condenser coils frequently keeps dehumidifiers in good condition.

# 個人電腦 Personal Computer (PC)

- 關掉顯示屏比使用「屏幕保護程式」更能節省能源。
- 按個別情況,應透過「電能管理」 功能使個人電腦進入靜 止或休眠設定模式\*。
- 毋須使用時,應關掉個人電腦,及所有週邊設備,如顯示屏及打印機等的電源。

- Switching off the screen can save even more than just letting the "screen saver" run.
  - Use the power management feature to preset the PC to "sleep" or "hibernation" mode\* when it is idle.
  - Switch off the power source to the PC and all the peripheral devices, such as monitor and printer, etc., whenever they are not in use.
- \* 在靜止/休眠設定模式 (又稱備用狀態) 下,電腦/電器 設備裝置仍消耗微量電能。 Devices still consume small amount of electricity at sleep or hibernate mode (i.e. also called as Standby mode).

# 影音器材 Audio and Visual (AV) Equipment

- 所有家居影音器材包括收音機、 電視機(連機頂盒)、立體聲音 響設備等,在使用完畢後應即 時關掉。
- 家居影音器材在長時間不使用時,應將電源關掉,避免停留 在備用狀態。
- 使用時間掣,預校於臨睡前關 掉所有家居影音器材。
- 應在電源插座處將電源關掉或 拔除,因遙遠控制器只能將家 居影音器材關至備用狀態。

- Switch off AV equipment including radios, televisions (c/w set-top box), and hi-fi, etc., after use.
- Switch off power source to the AV equipment that are not in use for a long period to avoid leaving them in standby mode.
- Use and preset a timer control device to switch off all AV equipment at bedtime.
- Switch or plug off the AV equipment at socket outlets for remote control device could only switch the AV equipment to the standby mode.



# Action

# 移動電話 Mobile Phone

- 在家中或在辦公室內,將移動電話通訊服務轉駁接至固網電話, 並關上移動電話手機。這樣可節 省手機電池的電能消耗,從而減 少手機電池充電次數。
- 當充電完畢後,將電池充電器從 電源插座拔除。
- Save the phone battery energy and minimise the phone battery charging frequency by switching off the mobile phone after forwarding the services to the fixed line desk phone at home or in office.
- Remove battery charger from power socket after charging completed.



具能源效益的產品能大幅減低能源消耗量。若消費者願意改用能源效益較高的電器,便可節省不少能源,以下是數個例子:

- a. 一台貼有「第一級」能源標籤的一匹冷氣機與相同製冷量的「第五級」能源標籤冷氣機相比,每年可節省最多480元的電費。
- b. 一台貼有「第一級」能源標籤 及洗衣量5公斤的水平滾筒式洗 衣機與「第五級」相比,每年 可節省最多170元的電費。
- c. 一台貼有「第一級」能源標籤的200公升雪櫃與「第五級」相比,每年可節省最多380元的電費。
- d. 貼有「第一級」能源標籤的慳電膽能源效益最高,平均電燈壽命可達8,000小時或以上,而貼有「第五級」能源標籤的慳電膽的平均電燈壽命則在6,000小時以下。一個四人家庭如以能效高的慳電膽取代鎢絲燈,每年可節省最多約440元的電費。
- e. 一台貼有「第一級」能源標籤 及抽濕量為每天9公升的抽濕機 與「第五級」相比,每年可節 省最多75元的電費。

Products with good energy efficiency performance produce substantial energy saving. Significant energy saving can be achieved, if consumers are willing to switch to energy efficient household appliances. For example:

- a. A "Grade 1" energy-labelled air conditioner of 1hp could save up to \$480 in electricity cost each year when compared to a "Grade 5" model.
- b. A "Grade 1" horizontal drum type washing machine with a washing capacity of 5 kg could save up to \$170 in electricity cost each year when compared to a "Grade 5" model.
- c. A "Grade 1" 200 litres refrigerator could save up to \$380 in electricity cost each year when compared to a "Grade 5" model.
- d. CFLs with "Grade 1" energy label are most energy efficient and have an average lamp life of 8,000 hours or above. CFLs with "Grade 5" energy label have an average lamp life below 6,000 hours. A household of 4 people could save up to \$440 of electricity cost each year by replacing incandescent lamps with energy efficient CFLs.
- e. A "Grade 1" dehumidifier with a dehumidifying capacity of 9 litres per day could save up to \$75 in electricity cost each year when compared to a "Grade 5" model.