

# SAVE ENERGY IN YOUR HOME

## Why do we need to save energy?

There are three main reasons why we should all do our best to reduce the amount of energy we consume in our day-to-day lives:

1. Nearly all of Hong Kong's electrical power, and our gas supplies, come from fossil fuels - coal and oil - which have to be imported. Once they've been burnt, these fossil fuels are gone forever. So the more energy we use each day, the less there is left for the future.
2. Burning fossil fuels creates pollution, and this in its turn is having a growing and adverse effect on the complex control mechanisms which regulate the earth's climate.
3. Consuming less energy, by being more efficient in the way you run your home, will naturally save you money. At the same time, you will be helping to protect the environment and safeguarding the future.

There is a worldwide need to reduce the amount of energy consumed, and everybody has their part to play, whether in industry, transport, business, construction - or at home.

These notes have been prepared to show you how to save energy in every aspect of running your own household. They include tips on what kind of items to look for when buying new equipment - and how to operate your electrical, gas and water appliances for maximum efficiency.

We are not suggesting that you reduce your standard of living in any way: simply that, with a little bit of thought, you can enjoy all the amenities and lifestyle that you do now, yet also be making your own, positive contribution towards the environment.

## How to save energy in your home

There are three main types of energy which are consumed in the homes of Hong Kong:

- ~Electricity
- ~Towngas and LPG
- ~Energy related to the consumption of water

In each of these areas, there are many opportunities to become more efficient with the energy we use in running our homes. Added together over a year, the savings both in resources and your own running costs could be substantial - and so would the benefit to the environment.

### 1. Electricity & electrical appliances

#### Lighting

- \* Lighting in your home can account for 15% to 20% of your electricity bill. Switch lighting on only when you need it, and switch it off when you don't.

- \* Utilise daylight as effectively as possible.
- \* When buying new lighting, consider choosing compact fluorescent (CF) bulbs unless you want to operate your lights with dimmers. These use 75% less energy to give the same amount of illumination, and last up to 10 times longer than conventional bulbs.
- \* Place you lighting carefully, and use 'task' lights where possible.
- \* For overall lighting, use one high wattage lamp to replace several low wattage lamps.
- \* Use dimmers where possible (except for fluorescent lamps).
- \* Use non-opaque, light-coloured lamp shades.
- \* Choose a light coloured, high-reflectivity decoration scheme for your main living areas.
- \* Keep light fixtures and lamps clean to maximise their efficiency.

### **Air-conditioning**

- \* When buying an air-conditioner, check its Energy Efficiency Ratio (EER). A minimum EER of 2.2W/W (or 7.5 Btu/h/w) is recommended; the higher the number, the better it is.
- \* Use ventilator fans instead of air-conditioning where possible.
- \* Try not to install any air-conditioner in direct sunlight.
- \* Do not obstruct input or output air vents.
- \* Close off areas that do not require air-conditioning, and turn units off in unoccupied areas.
- \* Keep windows and doors shut when the air-conditioner is running, and draw curtains or blinds to keep direct sunlight out.
- \* Clean or replace the filter in all air-conditioners at the beginning of the cooling season. Check and clean filters bi-weekly from then on.
- \* Weather-strip doors and windows to prevent the leakage of cooled air.
- \* Use timers if possible, to switch your air-conditioning both on, and off.
- \* Many people set their air-conditioning too low. Just set the cooling to an energy-efficient temperature - so that your home feels comfortable, rather than

cold.

## **Refrigerator**

- \* When buying, choose a high energy-efficiency refrigerator. Single door models are the most efficient; then stacked double doors, then parallel double doors. Select the size best suited to your family's needs.
- \* Place your fridge away from direct sunlight, your oven or any other heat sources. Allow 30 cm clear space on both sides and above, and at least 4 cm behind.
- \* Do not choose too cold a setting - it simply wastes electricity.
- \* Cover all food stored, and arrange it so that cold air can circulate freely.
- \* Do not put hot/warm food into your fridge - let it cool to room temperature first.
- \* Try not to open and close the fridge too often.
- \* Close the door(s) properly, and make sure the seals and hinges are airtight. Check the seals by putting a sheet of paper between the door and the main body of the fridge. If the paper moves, your seals need replacing.
- \* Thaw frozen food by putting it in the refrigerator section the day before cooking.
- \* Defrost regularly if your refrigerator is not a frost-free or cyclic defrost model. Accumulated ice should not be more than 6 mm thick.
- \* Do not block the cooling coils at the back of the fridge, and keep them clean - accumulated dust causes warming.
- \* Empty and switch off your fridge if going on a long vacation.

## **Microwave & Electric Oven**

PLUS : see 'General Cooking Hints'

- \* Fan-forces ovens cost 35% less to run than a conventional electric oven.
- \* Microwave ovens are fast and very energy-efficient, ideal for cooking small quantities of food, or for re-heating. Consider using one in conjunction with your present cooker.
- \* Induction cook-tops are also more energy-efficient.

## **Electric Kettle**

- \* Don't boil more water than you need. Use a kettle that switches off automatically when the water has boiled.

## **Washing Machine**

- \* Choose the right size of washing machine for your needs.
- \* Front-loading, horizontal axis washers use less water and energy than top-loading vertical axis units.
- \* Wait until you have a full load before washing - a half load uses the same amount of energy as a full load.
- \* Use a low-temperature wash cycle as far as possible, and don't use too much detergent.
- \* A high-speed spin cycle saves energy in drying, especially if you also use a tumble dryer.

## **Tumble Dryer**

- \* Whenever possible, hang-dry your washing outside.
- \* When buying a tumble dryer, choose a model with a moisture sensor and automatic stop feature.
- \* Clean the lint filter before each load.
- \* Do not overload: this blocks the airflow and drastically reduces drying efficiency. It's helpful to sort clothes and other items according to their thicknesses, then dry them in batches.
- \* Remove and fold or hang all items as soon as the dryer stops, to prevent wrinkling and reduce your ironing requirements.
- \* Remember that on very humid days, getting your clothes bone dry is a waste of time, as they will just get damp again.

## **Iron**

- \* Iron all items in one session, to avoid having to reheat the iron.
- \* Make sure you select the appropriate thermostat settings. Iron high-temperature items first, then medium, then switch off and use the residual heat for lower temperature fabrics such as silk.
- \* Certain items, such as towels, underwear etc. do not need to be ironed.

- \* If your ironing is interrupted, e.g. by a visitor or a long phone call, switch off your iron to save energy and for safety's sake.

### **Water Heater**

- \* Choose the right size for your family's needs - e.g. 15-20 litres storage capacity for a family of four - and one with a wide range of temperature control. Or use an instantaneous water heater.
- \* If you use a storage heater, make sure it is well insulated.
- \* Switch the heater off after use, or install a timer for maximum efficiency.
- \* Do not set to a very high temperature, and reduce the thermostat setting in summer.
- \* Take a shower instead of a bath. You'll save about 50% in water heating costs.
- \* A low-flow shower head also saves water and heating energy.
- \* Don't leave hot water running when shaving, rinsing dishes etc. Use cold water where hot water is not absolutely necessary.
- \* Keep the distance between heater and taps as short as possible.

### **Vacuum Cleaner**

- \* Use a vacuum cleaner only when a brush or damp mop would not do the job more effectively.
- \* Empty the dust bag frequently; waiting until it is full makes your cleaner work much harder to do the same job.
- \* Switch off and inspect your cleaner if the motor housing becomes overheated, or there's a change in the sound of the motor.

### **Room Heater**

- \* Choose an appropriate size, and type, of heater. Fan heaters distribute heat more efficiently than simple bar heaters; radiators give a more even background temperature.
- \* Before using any type of space heater, consider putting on warmer clothing, and also ways of preventing any cold air coming in.
- \* Keep the area to be heated to a minimum, and make sure doors and windows are properly closed to prevent heat loss.
- \* Use heaters with thermostats and timers to reduce energy consumption, and

keep the temperature at a reasonable setting.

- \* Switch off heating about 30 minutes before going out.

### **Dehumidifier**

- \* Choose units with a humidity setting to prevent unnecessary usage.
- \* Close the windows and doors when the dehumidifier is in use.
- \* Clean the condenser coil frequently.

### **Home Entertainment**

- \* With any type of home entertainment - radio, T.V., stereo, computer - turn it on only when you're about to use it, and don't leave it running once you have finished with it.
- \* Use a radio, rather than the T.V., for background music.
- \* Pre-set equipment with a timer to switch off at bedtime.

### **Hair Dryer**

- \* Towel your hair as dry as possible before use.

## **2. Towngas & LPG appliances**

### **General Cooking Hints**

These apply equally to cooking with electricity

- \* A pressure cooker saves up to 2/3 cooking time, saves energy, and preserves the goodness in your food.
- \* A slow-cook pot also uses a great deal less energy.
- \* Use cooking utensils that conduct heat well.
- \* Boil only as much water as you need.
- \* Use the right size of rice cooker for your family - an oversized cooker wastes energy.
- \* Always use the lids on pans to trap heat; this saves a lot of energy.
- \* Once your food has boiled, reduce it to a simmer.

- \* Use pans, etc., which completely cover the sources of heat from your stove.
- \* Turn your oven or ring off before you have finished cooking, and let the residual heat gently finish the job.
- \* Do not spend too long pre-heating your oven: 10 minutes is usually enough.
- \* Cook several dishes in one session when using the oven; foods requiring the highest temperature first.
- \* Do not cook too far ahead of meal time - reheating/ keeping food warm simply wastes energy.
- \* Defrost frozen foods before cooking them.
- \* Use efficient appliances like a toaster oven for cooking and baking in small quantities.
- \* Check your oven door seal for heat leakage, and replace it if necessary.
- \* Keep your oven clean for maximum cooking efficiency.

### **Gas Hotplate/Cooker/Oven**

- \* Choose a cooker/oven of a suitable size for your family's needs, and consider using it in conjunction with a microwave oven.
- \* A multi-jet cooker/oven offers you more versatility, and can minimise wastage.
- \* Adjust the flame to fit the bottom of your pan. Gas flames going up the side of a pan are a waste, can be dangerous, and do not increase cooking efficiency.
- \* Use the simmer burner rather than the oven to reheat casseroles and other food.
- \* Steaming and stir-frying is an energy-efficient way of cooking.
- \* Use your grill to its full capacity, rather than cooking one item at a time.
- \* Keep your cooking appliances clean and well maintained, and have them inspected from time to time.

### **Water Heater**

- \* Take a shower instead of a bath. You'll save about 50% in heating costs.
- \* A low-flow shower head also saves water and heating energy.

- \* Don't leave hot water running when shaving, rinsing dishes, etc., and use cold water where hot water is not absolutely necessary.
- \* When not using your water heater, switch off the pilot light.
- \* Have your water heater inspected from time to time to ensure its efficiency and safety.

### **3. Water**

Water is a precious commodity in Hong Kong. It also uses energy in being filtered and cleaned, transported, and pumped up to your roof tank - as well as in being heated. Please don't waste it.

- \* Don't draw off more water than you need for any given purpose.
- \* Take a shower instead of bath.
- \* Turn off the tap whilst brushing your teeth.
- \* Be economical with your washing machine or dishwasher - don't use it until it is fully loaded.
- \* Make sure there are no leaks in your toilet flushing system.
- \* If you have a dripping tap, please get it fixed - it can waste up to 70 litres of water every 24 hours.
- \* Avoid rinsing hands, clothes, vegetables etc. under a running tap - use a bowl.
- \* Re-use shower/bath water to wash the floors or water your plants.

#### **FURTHER FREE ADVICE**

- China Light & Power Co. Ltd. operates a hotline, called the INFO-LINE, giving customers information on accounts and services. Tel: 2304 3333
- The Hongkong Electric Co. Ltd. will, on request, conduct a free energy survey for domestic customers, providing a written report to help them achieve greater energy efficiency and conservation within the home. Tel: 2887 3455
- The Hong Kong & China Gas Co. Ltd. provides free booklets to customers on how to save gas. The booklets may be obtained at any Towngas Customer Centre.



