

ENERGY, EFFICIENTLY



A bit of care can go a long way

Here are a few tips on how to use energy efficiently, wherever you are, so that you can save on your bills and the environment, without compromising comfort.



IN YOUR HOME

Lighting alone accounts for over 9% of the annual power consumption. Here's how you can bring down your power consumption at home by up to 20%.

- Regularly clean the dust off your light fixtures, lamps, bulbs, tube lights and fans.
- Use low wattage lamps in galleries, lobbies, balconies and bathrooms.
- Turn off lights when you leave a room.
- Avoid opening the refrigerator door frequently.
- Do not keep your TV, tape recorder or music system on standby mode. Switch off the power to these appliances. TV sets account for over 5% of the total power consumption. By switching them off you save up to 70 kilowatt hours per year.
- Make maximum use of sunlight during the day. Drapes or curtains on windows should be drawn apart, and doors left open to let light stream into your home.
- Geysers consume the maximum amount of electricity. Heat only the amount of water you require. The thermostat can be set to a lower temperature of about 45 to 50 degrees.

- Reduce the use of lifts. Do not allow children to play with elevators.
- Install focussed lights over desks, like table lamps, so that the entire room need not be lit.
- Install lamps in the corners of rooms, so they can reflect light off two surfaces instead of one.
- Use compact fluorescent lamp (CFL) bulbs for lights that are on for more than two hours a day. CFL bulbs give the same light, using up to 75% less electricity. They last about 10 times longer. Typically, a 23 watt CFL bulb can replace a 90 to 100 watt incandescent bulb.
- Use dimmable bulbs wherever possible.
- Children should study in the same room using individual low wattage table lamps with sufficient light for reading. They should ideally use the morning hours and broad daylight to study.





SMART MEASURES



- Use ISI marked electrical appliances and equipment.
- Substitute bulbs with Tungsten Filament Lamp (TFL) tubes. They are cost effective and last longer.
- Switch over to CFL bulbs which consume less electricity than tube lights or bulbs. If you replace only two 75 watt light bulbs which are on four hours a day, with 15 watt CFL bulbs, you can save almost 18 kilowatt hours per year.
- You could also switch over from an electric geyser to a gas geyser.





IN YOUR HOUSING COMPLEX



- Install photoelectric controls or timers to ensure that outdoor lighting is turned off during the day.
- Run the AC units in the EPABX rooms four to five hours less each day and maintain the temperature at or above 19 degree C. Avoid going below the limits set by Original Equipment Manufacturers (OEMs).
- Lighting in open areas or yards should be switched off at 6am or at sunrise; and switched on after 7pm or at sundown.
- Tube lights in common areas and staircase landings should be reduced by switching on only alternate lights, or by using only one tube light in twin tube light fitting units.
- Water pumps should be switched off during non-peak utility hours, usually between 11am and 2pm and between 9pm and 5am, with due notification to residents.
- Only one electrical light should be used per room, inside flats. All additional fittings should be removed or switched off permanently.
- Electrical audits should be conducted in the complex, to identify opportunities for energy consumption through operational changes – both short term and long term. Short term cost effective measures should be implemented immediately.
- In case of two or more lifts in a building, only one should be used during non-peak hours.
- Residents should be encouraged to:
 - ◆ Use the lift only to go to the 3rd floor and above.
 - ◆ Avoid using lifts to come down. Maximise the use of stairs.
 - ◆ Minimise their consumption of power by avoiding the use of appliances like hot plates, toasters, water heaters, milk warmers, household flour mills, grinders, mixers, blenders and ovens.
 - ◆ Avoid turning taps frequently for small amounts of water; instead collect a large quantity of water at one go. This reduces power consumption by the water pump.
 - ◆ Turn off all appliances from their main switches when not in use.
 - ◆ Recharge chargeable batteries during the day to avoid energy consumption at night. This helps reduce peak-load on the power system.



HOUSEHOLD ELECTRICAL APPLIANCES



Refrigerator

Refrigerators account for nearly 25% of your electricity consumption.

- Clean beneath and behind the refrigerator every month, for better airflow and efficiency. Condenser coils, which rid it of heat, do not work efficiently if coated with dust as the motor has to work much harder.
 - Make sure the refrigerator is not up against an outside facing wall or walls exposed to direct sunlight as it absorbs more heat from the environment in summer.
 - Keep it as full as possible.
 - Keep your refrigerator and freezer at the right temperature. Even if they are just 2-3 degrees colder than necessary, your energy consumption may go up by about 25%.
- Make sure the door is always sealed tightly.
 - Do not put uncovered liquids in the refrigerator. They give off vapours that add to the compressor workload.
 - Allow hot food to cool before putting it in the refrigerator.
 - Plan ahead and remove all ingredients for each meal at one go.
 - If your fridge is over 10 years old, consider getting a new one.



OVEN / MICROWAVE

A typical home oven uses 200-700 kilowatt hours per year.

- Test the thermostat in your oven to ensure it measures temperatures accurately.
- Rearrange oven shelves before turning your oven on to suit the cooking.
- Do not peek at food in the oven! Each time you open the oven door while cooking, you lose 5 to 7 degrees or more.
- Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or for defrosting.
- Check the seal on your oven door to see if there are cracks or tears in it.
- Develop the habit of 'lids-on' cooking to permit lower temperature settings.

- Keep reflector pans beneath stovetop heating elements bright and clean.
- Carefully measure water used for cooking to avoid heating more than is needed.
- Begin cooking on the highest heat until the liquid begins to boil. Then lower the heat and allow food to simmer until fully cooked.
- Cook as much of the meal in the oven as is possible.
- When preheating an oven for baking, time it carefully. 5-8 minutes are sufficient.
- Use your microwave instead of your electric oven whenever possible, as it draws less than half the power and cooks in a shorter amount of time.
- For large vessels, stovetop cooking is most efficient, especially on gas.





WASHING MACHINE

Washing machines can account for as much as 20% of the electricity you use.

- While the water temperature is determined by the fabrics being washed, use cold water as often as possible, as almost 90% of the energy consumed by washing machines goes into heating. Set the wash temperature to cold or warm and the rinse temperature to cold, as often as possible.
- Each wash cycle uses up to 60 to 90 litres of water. Use your washing machine on

full load and plan washing periodicity to save on water.

- Follow detergent instructions carefully. Adding too much detergent actually hampers effective washing and may require more energy in the form of extra rinses.
- Soak or pre-wash clothes for effective cleaning.





AIR CONDITIONING

Windows

Windows do more than let light into your home. During the summer they let heat in and during the winter they let heat out.

- Check air gaps around windows every 6 months as they may shrink.
- Use a candle to look for draughts. If the flame flickers or dances, you have found a place to seal.
- Drapes on windows help reduce energy loss.

Air Conditioners

To cool your house efficiently, your air-con must stay cool too.

- An air-con exposed to direct sunlight uses 5% more energy than a shaded one. If your air-con is already in the sun, you can build a simple shade screen for it.
- Do not block the airflow at the back of the air-con.
- Check and clean or replace air filters every month.
- Clean the outside condenser coil once a year.

- Do not switch your air-con thermostat to a colder setting than that at which you like it, when you turn it on. It would not cool any faster and will waste energy if you forget to turn it back up.
- Minimise the amount of direct heat entering your home by pulling down shades and curtains on hot days.
- Have your air-con checked every six months. Incorrect Freon levels waste a lot of energy, without cooling properly.
- Every time you open a door you let in air that needs to be de-humidified, making your air-con work harder.
- Set your thermostat to as high as comfort permits.
- When the weather is mild, turn off the air-con and open the windows. You could also use a combination of the air-con with your ceiling fan. Fans consume as little energy as a 60 watt bulb.
- Close cooling vents of air-cons not in use, and keep doors to unused rooms closed.





WHILE DRIVING



- For optimal fuel consumption, try to maintain your speed between 55 to 60 km per hour.
- Avoid using the choke, unless necessary (during winter, or if the car is not properly tuned.) If you use it, put it off as soon as the engine warms up.
- When you have starting trouble, press on the clutch while triggering the ignition (this takes the load off the engine.)
- Always start on 1st gear and run up to 10 kmph before changing to 2nd gear; 20-25 kmph before changing to 3rd and about 30-32 kmph before changing to 4th gear.
- On braking, gauge the speed of the car and change to the appropriate gear. Avoid going to a lower gear than necessary.
- Avoid frequent starts and stops to reduce fuel consumption, battery wastage, and starter overheating or failure.
- Coordinate clutch release and accelerator engagement carefully to avoid racing the engine.
- Never race the engine when declutched. Declutch fully while changing gears. Never ride on the clutch pedal (this increases clutch wear and fuel consumption.)
- Be careful not to run the car while the hand-brake is engaged. Preferably install a warning light for it.
- Break your speed as often as you can by changing to lower gears.
- Anticipate the need to brake.
- Switch to lower gears on gradients (up or down) only when you find the vehicle dragging or speeding.