

## Refrigeration

### Low cost (\$0 – \$500) actions

- ✓ Place notices up to remind staff and customers to close the freezer and refrigerator doors.
- ✓ Make sure fridges and freezers are at least 10-15 cm from the wall.
- ✓ Check the temperature settings. Freezers are recommended to work at -18 degrees and fridges 0- 4 degrees.
- ✓ Try to locate fridges and freezers in the coolest place and away from heat sources such as food heating/cooking equipment and direct sunlight.
- ✓ Do not stack items close to fridges, freezers or coolrooms as they might obstruct air flow.
- ✓ Move stock from half empty fridges, freezers and cool rooms and then turn off unused units.
- ✓ Fridges that require defrosting should be done 2 to 3 times per year.
- ✓ Drink fridges that have no perishable products can be turned off with a timer before going home.
- ✓ Cover glass topped freezers and fridges with lids or insulated soft covers overnight or when not in use. Use Velcro strips to secure soft covers on upright display freezers and cases.
- ✓ Install a beeper to alert staff when doors are left open.
- ✓ Freezer fans can have a system fitted that closes the fan down when the doors are opened.
- ✓ Visually inspect the seals often for cracks and signs of wear, particularly at the bottom of the door. Repair or replace the seals when necessary. (Close the door on a \$5 note. If you can easily pull the note out then you need to replace the seals).
- ✓ Ensure that condensers and evaporator coils are clean and free of dust.
- ✓ Check if any condensers need replacing.
- ✓ Use a timer or manually turn off drink fridges that have no perishable products in them before going home.

### Longer term actions

- ✓ Check with your refrigeration specialist if your cool room has an EC fan (Electronically Commutated fans). If not, consider replacing it with EC fans to save up to 30% electricity.
- ✓ Buy new smaller (domestic) fridges and freezers with a higher energy star rating.  
View the website: [http://reg.energyrating.gov.au/comparator/product\\_types/](http://reg.energyrating.gov.au/comparator/product_types/).
- ✓ Consult a refrigeration specialist on energy efficiency ratings for larger commercial refrigeration systems.

## Hot Water

### Low cost (\$0 – \$500) actions

- ✓ Turn off electric hot water systems on weekends and holidays when the business is closed.
- ✓ Most hot water systems are set at too high a temperature. Set the temperature at a maximum of 60°C as this is adequate for most uses.
- ✓ Inspect and fix leaks.
- ✓ Insulate pipes and taps on hot water systems with 10mm thickness insulation.
- ✓ Install a heat trap within the pipes to prevent heat loss from the pipework.
- ✓ Avoid reheating water in high cost periods by installing a timer or switching to off peak.
- ✓ Install flow regulators and AAA-rated plumbing devices or retrofit your taps to reduce hot water use.

### Longer term actions

- ✓ Upgrade your electric hot water system with a solar hot water system to save money on energy use.

## Involve your staff

- ✓ Involve your staff and let them know how you are making changes to save energy and what they can do.
- ✓ Train your staff to save energy and set goals to reduce energy use.
- ✓ Use light, breathable fabrics for staff uniforms. This will keep your staff cooler.

# Save energy and money in your restaurant

*“Replacing the old chest freezer has reduced the need for constant defrosting, and reduced energy bills by a noticeable amount”.*

Asian restaurant owner



### You too can save!

Contact us for a free energy assessment on 9319 0288.

## Kitchen

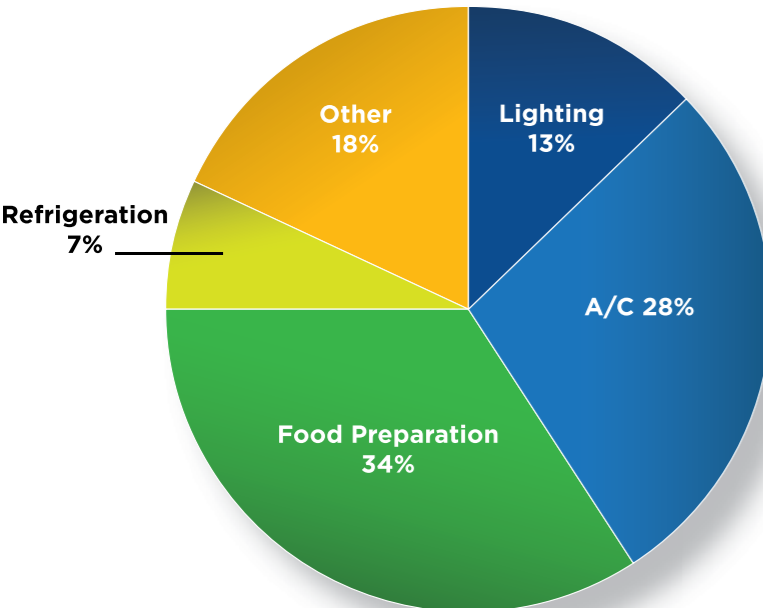
### Low cost (\$0 – \$500) actions

- ✓ Switch off all kitchen equipment at the power point to save energy.
- ✓ Turn ovens down or off during less busy times to save energy.
- ✓ Cut idle time and turn off back-up fryers, where possible.
- ✓ Ensure a startup and shutdown schedule is in place for the kitchen equipment.
- ✓ Turn off your exhaust fan when the kitchen is empty.
- ✓ Only preheat equipment that is going to be used immediately. Instead of turning everything on at the beginning of a day, turn on equipment according to when it will be used.

### Did you know?

Typically, fryers only need 10 to 15 minutes to preheat.

- ✓ Reduce the oven's heat-up time by checking the accuracy of the thermostats and experiment with delaying start-up time.
- ✓ Fill the oven as much as possible before baking, where possible.
- ✓ Use cold water for dishwashers that heat water as part of their wash process. If your dishwasher heats water during the operating cycle do not connect the machine to the hot water tap.



Restaurant

**Did you know?**

You use 50 per cent less energy by closing pan lids during periods of extended use and the content of your cooking vessels also take less time to heat.

- ✓ Ensure the dishwashers are only used when full, where possible.
- ✓ Check seals around the oven regularly and replace if damaged to reduce heat loss from the oven.

**Did you know?**

One typical electric deep-fat fryer uses more than 18,000 kilowatt-hours (kWh) and cost more than \$3,000 in an average year.

**Longer term actions**

- ✓ Buy insulated cooking equipment including new fryers, ovens, coffee machines and other cooking equipment.
- ✓ Cooking equipment could be upgraded to use gas rather than electricity where possible.

- ✓ Install a variable-speed vent for your exhaust hood. This allows you to adjust your fan speed up during busy periods and down during quiet periods and can save you 30-50% on ventilation energy costs.
- ✓ Install side panels for your cooking exhaust hoods. Side panels lower exhaust rates by reducing cross drafts and drawing air from the front of the cooking equipment, which contains heat and fumes and reduces energy use.
- ✓ Install a proximity hood. Different types of exhaust hoods available include: backshelf, pass-over or eyebrow hoods. These use less energy than wall-mounted or island canopy hoods because they sit closer to the cooking equipment.
- ✓ Consider a larger overhang of 30-45cm for your exhaust hood to capture the hot air from ovens and stovetops.

**Did you know?**

Approximately 25 per cent of the energy consumed in a commercial kitchen is from the appliances used in food preparation.

**Heating, ventilation and air conditioning (HVAC)**

**Low cost (\$0 - \$500) actions**

- ✓ Only use the air conditioning system when necessary.
- ✓ Keep temperature settings at 20 °C for heating in winter and 24 °C for cooling in summer. Moving the temperature 1°C lower in summer and 1°C higher in winter will increase your energy use by 10 per cent.
- ✓ Check that the staff know how to change the air conditioner controls to suit the conditions.
- ✓ Use the outdoor air economy cycles in centralised air conditioning systems.
- ✓ Close the windows and doors when the air conditioning is on.
- ✓ Remove any objects blocking the ventilation and air flow around the rooms.

- ✓ Insulate the air conditioner ducts and pipes so that it doesn't lose cool air.
- ✓ Open windows and doors and use ceiling fans to move the air around.
- ✓ Use or install a zoning system if possible for your air conditioner, so you can turn off air conditioning in rooms/ areas that are not being used.
- ✓ Use natural ventilation and ceiling fans to assist with air circulation. Switch your ceiling fan to summer mode in summer and winter mode in winter. Look for this switch on the fan.
- ✓ Consider installing air curtains at the entrance to reduce cool air loss during summer and warm air loss during winter through doorways.
- ✓ Maintain the air conditioning system according to the manufacturer's instructions, and make sure that:
  - the system is free of dust
  - coils and filters are clean and replaced where required
  - ducts and pipes are checked for damage or leaks.

**Did you know?**

How you use your appliances is just as important as which appliances you buy.

**Longer term actions**

- ✓ When replacing the air conditioning units look for a more energy efficient option.
- ✓ Ensure any new air conditioning units are the right size for the space.
- ✓ Add external shading, such as eaves or awnings, on the northern side of the building and add tinting to windows that catch a lot of summer sun.
- ✓ Check the ceiling space for insulation. Installing ceiling insulation can reduce heating and cooling costs by up to 40%.



**Lighting**

**Low cost (\$0 - \$500) actions**

- ✓ Paint dark walls with lighter colours to improve natural light levels.
- ✓ Using labels and training, ensure that your staff knows where the light switches are located and how lights are controlled so that they can turn off the lights when they are not being used.
- ✓ Turn off the lights in display cases and fridges after hours.
- ✓ Clean windows, light fixtures and skylights regularly.
- ✓ Install timers or occupancy/motion sensors on the lights (ie lights turn on when someone walks into an area) in rooms that are not often used.
- ✓ Remove some of the lights in areas which are too brightly lit.

**Longer term actions**

- ✓ Find out if multiple switches can be used to separately control lights instead of a single switch.
- ✓ Change old or high energy using fluorescent tubes and halogen downlights to low energy using lights such as Light-Emitting Diodes (LEDs).
- ✓ Increase the amount of natural light into your business by installing skylights and windows.
- ✓ Consider installing dimmers on existing high energy lights e.g. Halogen downlights, to create mood lighting for your restaurant area.