

# Energy Efficiency Handy Hints

## Introduction

The purpose of this leaflet is to give you handy hints about how to use gas and electricity more efficiently.

## Where to Get More Independent Advice

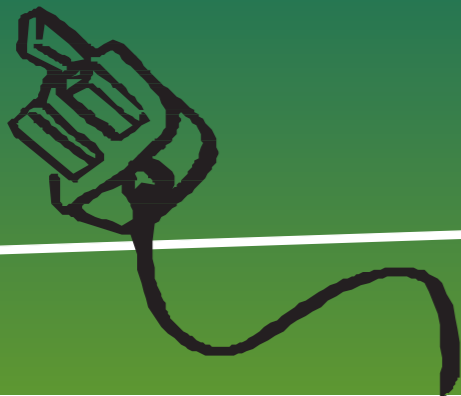
- *Energy Efficiency and Conservation Authority (EECA).*

Details of the contact phone numbers and the EECA website can be found on the back page of this leaflet.

## Using Electricity and Gas In Your Home

Electricity and gas are safe, reliable and versatile sources of energy. If you use them efficiently, you can keep your bills low and still enjoy the convenience and comfort they offer in your home.

By using energy efficiently, you can also help the environment.



## Electrical Appliances

The longer appliances are switched on and working, the more energy they will use. The actual amount will depend on the appliance's rating in watts (W) or kilowatts (kW). 1kW is equal to 1000W.

You will normally find the appliance's rating on the appliance nameplate. The higher the rating, the more electricity the appliance will use in a set time.

The amount of energy you use is measured in kilowatt-hours. Each kilowatt-hour (kWh) is equal to the amount of energy a one kilowatt appliance will use in one hour. For example, a one-kilowatt (1000W) heater will use one unit each hour it's switched on i.e. 1 kWh. A 100 watt light bulb will use one kilowatt-hour every ten hours.



## Help and Advice

This leaflet gives you helpful information and advice on making the most of the gas and electricity you use. By following our suggestions, you should be able to make your home more energy efficient, more comfortable to live in and cheaper to run.

## Warmth without Waste

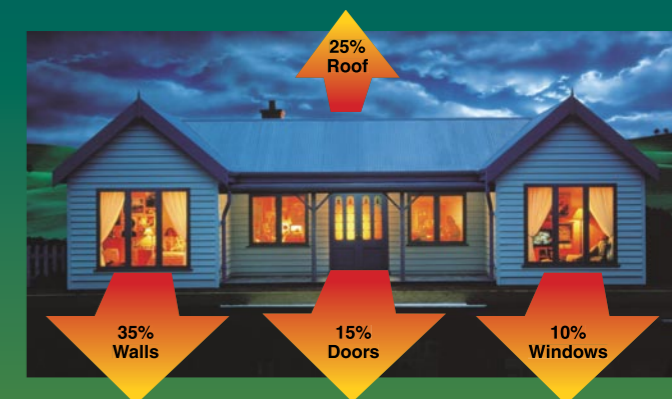
Insulation is one of the best ways to keep your home cosy and bring down heating costs.

Heat escapes:

- *Through the roof;*
- *Through walls and windows;*
- *Up the chimney;*
- *Through gaps around door and window frames; and*
- *Through the floor.*

If your home has little or no insulation, you could be wasting heat. A lot of the heat you pay for could be warming the outside air so, it's important to stop heat escaping. But, you will need to ensure adequate ventilation in each room of your home to prevent condensation building up. For safety reasons, make sure you have enough ventilation in rooms that have unflued gas or oil heaters.

Good insulation will cut this heat loss dramatically. You could save up to 10% or more on heating costs if floors and ceilings are insulated. You will also be more comfortable with no more chilly corners, cold walls or icy draughts in your home. And, if you decide to move, you may find the extra insulation adds value to your home. Also, if you're having a new heating system put in, you may only need a smaller system if you have good insulation. This will help you save on costs.



## Easy Ways to Insulate

### Ceilings

Insulating your ceiling means you can save a lot of heat for a relatively small cost. We recommend you put a 200mm (8 inch) layer of glass fibre, or similar insulation material, between or over the joists. If your ceiling has a lot of awkward corners or obstructions, you might find it easier to use loosefill insulation. This is simply packed or poured in between the joists. Again, we recommend a 200mm (8 inch) thickness. Whichever form of insulation you choose, it could pay for itself through energy savings but the payback will vary depending on your existing energy use.

### Draughts

Fit draught-proof strips around windows and outside doors. Seal chimneys and flues that you no longer use to stop heat escaping. However, you will need to fit a ventilation grille to prevent condensation building up. For safety reasons, make sure you have enough ventilation in rooms that have unflued gas or oil heaters.

### Water tanks and pipes

Many modern hot-water tanks are already insulated. If your electric water heater is not lagged then fit a lagging or insulating jacket. Cover hot-water pipes with lagging to stop heat loss all year round. Also cover your cold-water tank and pipes to stop them freezing in winter. But, don't insulate under the cold-water tank in the ceiling or it might freeze. If you insulate your hot-water tank and pipes then you will normally get your money back in less than a year but the actual payback will vary depending on how much hot water you use.

### Walls

Insulating cavity walls can save about two-thirds of the heat that is lost through your walls. Get someone who specialises in cavity insulation to do the work. It should pay for itself inside five years but again payback will vary depending on how and to what level of comfort you heat your home. Before you agree to have any work done to your home, make sure you check the builder's terms, particularly on cancelling the work and guarantees.

### Windows

If you close your curtains when it gets dark, this will help keep the heat in and the cold out. Savings start straight

away but the savings will vary depending on what level of warmth comfort you want in individual rooms in your home.

Opening windows in winter wastes a lot of heat. Extractor fans in the kitchen and bathroom will remove a lot of stale and moist air and will also minimise the heat loss.

### Floors

A thick carpet with underlay will help stop draughts and cold coming through the floor.

If you have wooden floorboards, under floor insulation can be installed underneath the house and the floorboards sealed to reduce heat loss.

### Water and Space Heating

If you heat water using electricity, you will probably use a hot-water storage tank with an immersion heater.

If you use gas to heat your water, you will probably use a hot-water storage cylinder or a continuous flow water heater. If you use a storage cylinder then the water will be stored in the hot-water storage tank in the same way as an electric cylinder.

If you use a hot-water storage tank, make sure both the tank and the pipes leading from it are properly insulated so you are not wasting gas or electricity. The pipes leading from the tank should also be as short as possible - long pipes lose more heat.

If you use a continuous flow gas water heater then you will only heat the water that you use. However, the same principals of insulating your hot-water pipes and having pipes as short as possible apply.

It's worth remembering that showers are cheaper to use than baths. A low flow shower uses about 13.5 litres of hot water - an average bath uses 68 litres.

### Handy hints

- *Don't set the water thermostat too high; 55°C at the tap is hot enough. By resetting your thermostat to an optimum temperature you will save on your running costs but these will vary depending on how much water you use and the actual reduction in the thermostat setting. Savings will vary but again they start straight away.*
- *Turn your water heater off if you going away for 1 week or more.*



- When you need small amounts of hot water, it may be cheaper to have a continuous flow water heater. This heats water where and when you want it.
- Don't wash your hands or dishes under a running hot-water tap. Put the plug in the basin or use a bowl. Savings will vary but they do start straight away.
- Fix dripping taps – they waste hot water. A hot water tap that drips once a second will cost you \$20-30 a year in electricity.
- Put spray heads on taps to save hot water.
- If you use a bath, don't fill it with more hot water than you need.
- If you have a well insulated electric hot water cylinder you could consider fitting a time controller to your hot-water tank and not leave it on 24 hours a day, as this costs you more money.

### Heating Your Home

- Don't overheat your home. Lowering the room temperature by 1°C can cut your heating bills by up

to 10%, but results will vary. Make sure that you are still warm enough, but you can start saving straight away. You can also turn thermostats down in empty rooms to provide a minimum background temperature but don't make it so low that you cause condensation.

- Make the most of cheap off-peak electricity.
- Use time controllers to switch your heating on and off depending on when you get up and leave your home in the morning and when you come home and go to bed in the evening.
- Putting heaters under windows can sometimes waste heat.
- Check your heaters aren't blocked by furniture.
- Check that your timers are set at the best time to use energy efficiently.
- If you have central heating, make sure that your system is properly maintained.
- Have your heaters serviced and cleaned at least annually to make sure that they are operating efficiently.

### Reducing Moisture in the Air

Normal activities, such as washing, bathing, cooking and simply breathing, produce moisture. You cannot avoid these activities.

You could reduce the effect of some of them by taking a number of practical steps.

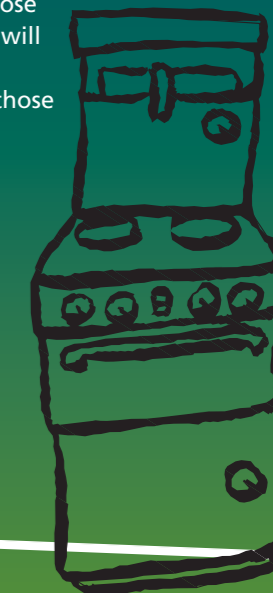
- Tumble dryers should have a vent leading to the outside.
- Do not use bottled-gas, unflued and paraffin heaters without vents as water vapour is produced as the gas is burned.
- Use a dehumidifier that dries and heats the air.
- When you create steam by cooking or in the bathroom, open the windows and close the doors of these rooms to prevent moisture spreading throughout the house. The installation of an extractor fan to deal with condensation will help minimise heat losses.
- Where possible keep lids on saucepans while cooking.



### Using Your Household Appliances without Wasting Energy

The appliances in your home use up a lot of energy. If you're buying a new product, you will find that most appliances available today are more efficient than older models. Many appliances have economy features to help you reduce the amount of gas and electricity you use.

All new fridges, freezers, fridge-freezers, washing machines and tumble dryers have labels that show how efficient they are. If you choose the most efficient appliance, this will be the cheapest to run. If you are buying new appliances, look for those with a label which tells you how energy-efficient they are.



## Saving Energy in the Kitchen

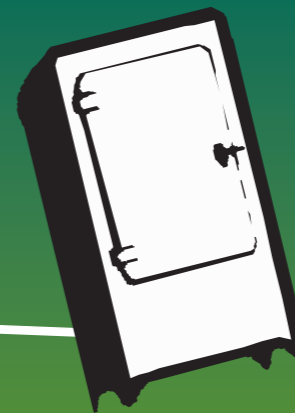
- Never use your cooker to heat a room.
- Don't use too big an element or ring for the pan and use dual rings on your electric cooker if you have them.
- Cook more than one kind of vegetable in a pot or use a special double or steamer pot.
- Use lids on pots and frying pans to keep in heat and cut down on cooking time.
- Don't use too much water to cook food in as this wastes energy.
- Cut food into small pieces because it will cook quicker.
- Cook small things, such as chops, under the grill, not in the oven.
- Whenever possible, fill the oven rather than heating some items in the oven and others using other appliances.
- Small appliances, such as contact grills, slow-cookers and multi-purpose pans, often use less electricity than a conventional cooker.
- A pressure cooker saves time and energy.
- Microwaves are faster and cheaper to run than conventional cookers.
- Always defrost your food before cooking as it takes up to 50% more cooking time if its frozen.
- It is cheaper to boil water in an electric kettle than on a cooker ring. Always make sure you cover the element in the kettle with water but don't fill the kettle with more water than you need.

If you're making toast, it's cheaper to use a toaster than a grill.



## Fridge and Freezer Energy Savers

- Defrost your fridge and freezer regularly (unless you have an appliance that defrosts itself).
- Don't open the fridge door more than you need to.
- Put your fridge or freezer in the coolest possible place, not near the cooker or a heater.
- Test the seal by closing the door on a piece of paper. The paper should be gripped tightly and shouldn't slide easily. If necessary, you can buy a new seal quite cheaply from good electrical shops.
- The correct temperature for your fridge is between 2°C and 5°C and -18°C for your freezer.
- Try to keep your freezer at least three-quarters full.
- Let food cool down before putting it in your fridge or freezer.



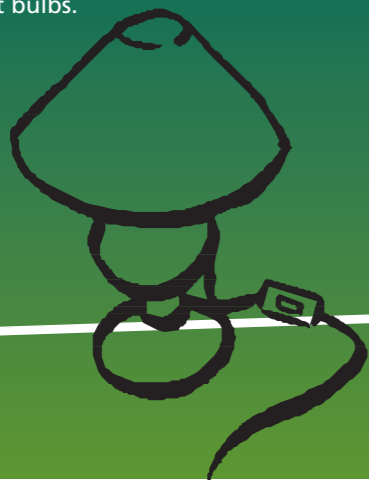
## Laundry Energy Savers

- Save up a full load for your washing machine or tumble dryer, but don't overload the machine as this could cause damage.
- If your machine has an economy setting, remember to use it as often as you can.
- Before tumble-drying your clothes, spin off as much water as possible using the spin cycle on your washing machine.
- If you've got a twin-tub, don't change the water between loads unless it's necessary.
- Not everything has to be ironed. When you are ironing, use the lowest possible temperature setting.



## Lighting Energy Savers

- Lighting is very cheap to use.
- In the average home, lighting uses just over one kilowatt-hour a day. But there are still ways for you to cut down on the amount of electricity you use and save money.
- Switch lights off in rooms you aren't using. But make sure places such as stairs have good lighting for safety.
- Don't use a higher wattage light bulb than you need.
- If you use a light for more than three hours a day, you may save money by switching to an energy-efficient light bulb. Although they cost more to buy, compact fluorescent lamps (CFLs) last about eight times longer than ordinary light bulbs.



## Carbon Monoxide

Carbon monoxide is a very poisonous gas to humans and animals. It can kill you. It has no colour, no smell and no taste.

If you are exposed to carbon monoxide, you may:

- *Feel dizzy;*
- *Have a headache;*
- *Feel sick;*
- *Feel tired; or*
- *Have flu-like symptoms.*

You should look for the following danger signs.

- *Stains, soot or discolouring around a gas fibre or at the top of a water heater. (This means the flue or chimney could be blocked and carbon monoxide can build up in the room.)*
- *A yellow or orange flame on a gas heater or water heater.*
- *A strange smell when the gas appliance is on.*

There are three main ways to reduce the risk of carbon monoxide poisoning:

- *Buy appliances that have been tested for safety. If you buy a second-hand appliance, make sure you get a written guarantee from the dealer. Always ask for a copy of the user instructions.*
- *Have your appliances installed by a craftsman gasfitter. They are the only people who have the legal right to fit gas appliances. Never fit a gas appliance yourself - a mistake could kill someone.*
- *Have your gas appliances checked and maintained every year by a craftsman gasfitter.*

If work has been done to your property, it is very important that you get your appliances checked by a professional before you use them. It is even more important if the work was done to your chimney, ventilation or flueing installation.

Remember that the checks above will reduce the risk.

Phone the Plumbers Gasfitters and Drainlayers Board on 04 589 5310 for details of a qualified gas installer in your area.

## Where to get more Independent Advice

- *Consumers Institute;*
- *Citizens' Advice Bureau; or*
- *EECA, Freephone 0800 358 676*

You can also visit the EECA web site at [www.eeca.govt.nz](http://www.eeca.govt.nz)

Please check your phone book or Yellow Pages for the address of your local Citizens' Advice Bureau and the Consumers Institute.

Energy Direct NZ  
179 St Hill Street  
PO Box 32  
WANGANUI.  
Phone: (06) 349 0909  
Fax: (06) 345 4931

You can also visit our website at [www.energydirectnz.co.nz](http://www.energydirectnz.co.nz) or email us at [enquiries@energydirectnz.co.nz](mailto:enquiries@energydirectnz.co.nz)





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