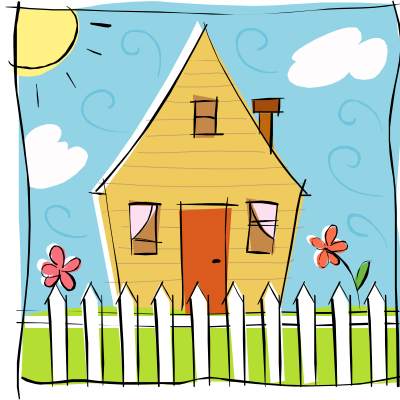


HOME ENERGY EFFICIENCY HANDBOOK



Save energy

Save the environment

Save money on your energy bills

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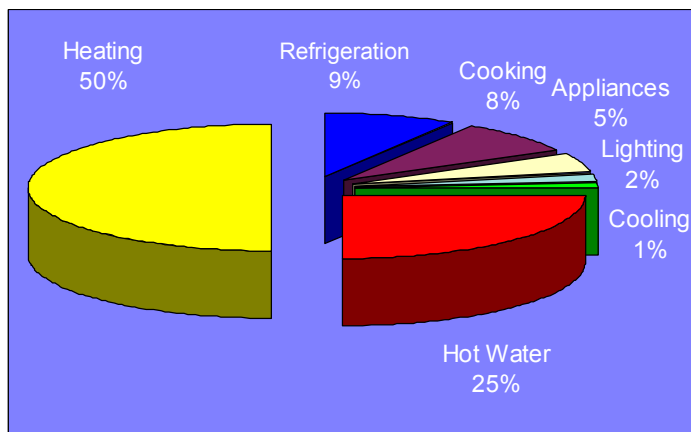
Overview

We can all save money by using energy wisely in our homes

This booklet has been designed to help you understand the costs associated with energy use in the home and to help you identify opportunities to reduce those costs.

Lighting, hot water, heating, cooling and household appliances are all included on the checklists that appear on the following pages.

The breakdown of energy usage in the average home is illustrated below:



Source: Sustainable Energy Authority, Victoria

By walking through each room in your house and referring to the checklist - *and by following the tips included* - you will be able to identify opportunities to reduce your energy consumption and save money.

Saving energy in the living room

Heating

Heating accounts for approximately 50% of the energy usage of the average household. The type of heating you use and the way in which it is used will affect the costs associated with heating your home.



Space Heating

- Ensure all doors to the room are closed to “trap” the heat
- Use the thermostat – set it between 18°C and 21°C

Central Heating

- Heat only the rooms you are using – close doors to other rooms and their vents
- Use the thermostat – set it between 18°C and 21°C

Rating:

- Check the star rating - The higher the star rating, the more energy efficient your heater

Insulation:

Do you have roof, wall and under floor insulation?

- These will help to maintain room temperatures for longer periods
- Don't forget to use your “window insulation” – drawing the curtains will help to keep rooms warm. External blinds and double glazing will also help to maintain warmer inside temperatures

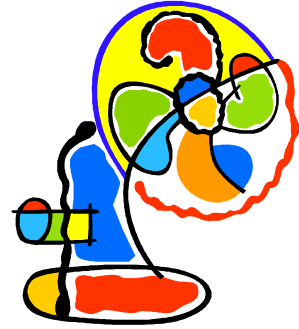
Gaps:

Are there any gaps around doors, windows or floors?

- Any gaps around doors, windows or floors that allow a draught should be sealed

Cooling

The type of air conditioner you use and the way in which it is used will affect the costs associated with cooling your home.



Reverse Cycle / Refrigerative

- Close all doors and windows to the area/s being cooled while air conditioner is being operated use the thermostat – set it between 25°C and 27°C

Evaporative

- Ensure the unit is well ventilated
- Use the thermostat – set it between 25°C and 27°C

Rating:

- Check the star rating
The higher the star rating, the more energy efficient your air conditioner

Insulation:

- Do you have roof, wall and under floor insulation?
These will help to maintain room temperatures for longer periods
Don't forget to use your "window insulation" – drawing the curtains will help to keep rooms cool. External blinds and double glazing will also help to maintain cooler inside temperatures

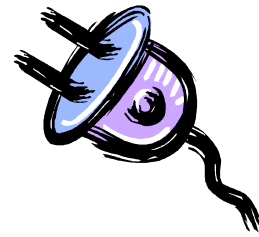
Fans:

- Do you have ceiling or portable fans?
Portable and ceiling fans are a good way to keep cool initially and when used in conjunction with air conditioning units

Home entertainment systems and appliances

Leaving your home entertainment equipment “on stand by” is costing you money.

While not in use, your equipment could be costing you \$100 or more over the course of one year.



According to the Sustainable Energy Authority, these are the costs associated with leaving your appliances on stand-by:

▪ Television and VCR/DVD:	\$23 per annum
▪ Stereo / Hi Fi	\$13 per annum
▪ Home computer equipment	\$20 per annum
▪ Phone/ fax, charger	\$11 per annum
▪ Gas pilot light for heater	\$55 per annum

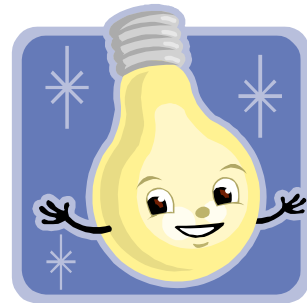
To save these costs:

- Use the “off” button on your appliances rather than the “stand by” button
- Switch equipment off at the power point

Lighting

Lighting accounts for approximately 1% of the energy usage in the home

What sort of lighting do you have?



Standard incandescent light globes

- Replace these with compact fluorescents
- Consider using lower watt light globes where possible

Downlights / low voltage halogen

- Replace standard transformers with high efficiency transformers
- Consider using lower watt halogen globes where possible

Further energy savings can be made by:

- Making use of natural light as an alternative to electric lighting where possible
- Switching off lights in rooms that are not being used

Saving energy in the kitchen

The types of appliances you use - *ovens, cooktops and refrigerator, etc* – will affect the rate at which you use energy in the kitchen.



Cooking:

Cooking accounts for approximately 8% of the energy usage in the home.

Is your conventional oven gas or electric?

Are your hotplates gas or electric?

Natural gas is the most cost effective means of cooking with conventional ovens and cooktops.

To ensure you save as much energy - and therefore money – as possible in the kitchen, consider incorporating as many of the following tips into your cooking routine:

- use the microwave whenever possible
- minimise grilling
- cover saucepans and use minimal water
- simmer saucepans rather than boiling
- use an electric toaster rather than a griller
- use an electric kettle rather than boil a kettle on a hotplate

Refrigeration:

Refrigeration accounts for approximately 9% of the cost associated with your home energy usage. If the appliance is old and inefficient, or in poor working order, it will account for even more.

Depending upon the state of your appliance, you may be able to reduce the amount of energy you use and save on your refrigeration costs.



Consider the following:

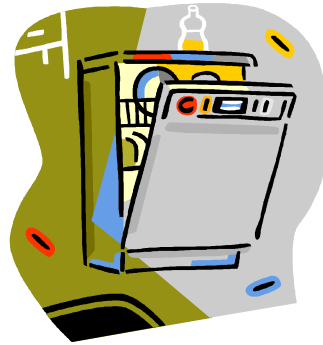
- Ensure your refrigerator is situated in a cool place in the home, out of sunlight
- Ensure that the rear of your refrigerator is well ventilated
- Replace cracked fridge seals and seals that do not grip tightly
- Set the thermostat to between 3°C and 5°C in the refrigerator and between -15°C and -18°C in the freezer
- If you have more than one refrigerator, i.e.: a drinks fridge, switch it off when not in use

New Appliances

If you are considering purchasing a new refrigerator, look for a high energy efficiency star rating

Dishwashing:

There are energy efficient ways to use your dishwasher. By making a few small adjustments to the way you use your dishwasher, you will save money and energy.



Consider the following each time you wash:

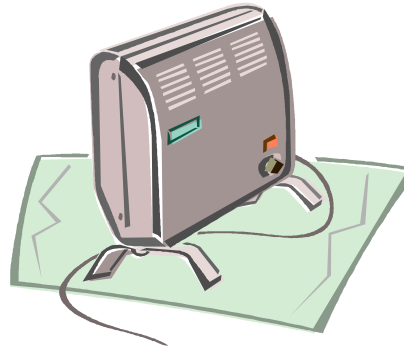
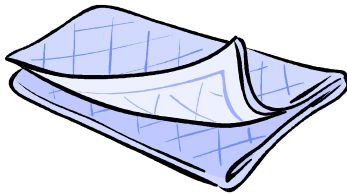
- Make sure the dishwasher is full before you turn it on
- If equipped with an economy cycle, use it
- Scrape your plates rather than waste water rinsing them before washing

New Appliances

If you are considering purchasing a new dishwasher, look for a high energy efficiency star rating.

Saving energy in the bedroom

Heating



Central heating:

- Save energy by opening vents in bedrooms only when they are being used

Space heating:

- Use low watt radiant panel heaters or on a medium setting when the room is in use
- Ensure all doors to the room are closed to “trap” the heat

Retaining heat:

- Drawing the curtains will help to retain heat in the rooms it is needed
- Double glazing will also help to maintain warmth
- Any gaps around doors and windows that allow a draught should be sealed

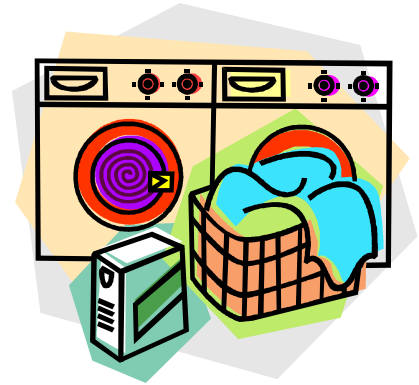
Electric Blankets:

- Turn your electric blanket off when you get into bed
- Try to do without one altogether – use an extra blanket

Note: Electric blankets should be inspected for safety at the start of each winter. Contact the manufacturer directly or take it to an electrical appliance repair centre.

Saving energy in the laundry

You can make the process of doing your laundry more energy efficient with just a few small adjustments to the way you use your washing machine and clothes dryer.



Washing Clothes:

Consider the following each time you wash:

- Make sure the washing machine is full before you turn it on
- Wash in cold water only
- If equipped with an economy cycle, use it
- Use a faster spin speed to minimise drying time

Drying Clothes:

If you also use a tumble dryer, some things to think about are:

- Use the “medium” temperature setting rather than the “high” setting
- Use the clothesline or clothes horse / drying rack

New Appliances:

If you are considering purchasing a new washing machine or tumble dryer:

- Front loading washing machines are more energy and water efficient
- Choose an appliance with a 5 star energy efficiency rating
- Choose a washing machine that has an economy cycle
- Choose a dryer that offers a low temperature setting

Saving energy in the bathroom

To ensure you conserve energy in the bathroom, incorporate these practices into your routine:



Hot Water / Water Usage:

- Front loading washing machines are more energy and water efficient
- Minimise the duration of each shower
- Minimise the amount of water used in the bath
- Adjust your hot water temperature so that delivered hot water is no more than 50°C – you may wish to enlist the help or advice of a plumber
- Consider installing a water saving low-flow shower head (note: not suitable for electric instantaneous hot water systems)

Electricity / Appliances:

- Ensure the exhaust fan is used only while you are in the shower, or open a window instead
- Ensure bathroom heaters are used only while bathroom is in use
- Heated towel rails and spa baths use a lot of electricity – daily use of both could be costing you as much as \$100 per quarter.

Hot water systems

Hot water accounts for approximately 25% of a home's energy usage. Aside from the amount of hot water you use in the bathroom, laundry and kitchen, the type of hot water system you have can dramatically affect the rate at which you use energy in the home.

What sort of hot water system do you have?

- High Efficiency Natural Gas and Load Managed Electric Off-Peak (Y6 Tariff) are the most cost effective
- Using Standard Efficiency Natural Gas or Electric Off-Peak (Y8 Tariff) is approximately 25% more expensive
- LPG hot water and Peak Tariff (GD) electric hot water systems (instantaneous and continuous reheat) are approximately 2 – 3 times more expensive to run
- Solar hot water systems reduce annual hot water costs on average by 60 – 65%, and could save an average family up to \$165 per year – based on Standard Efficiency Natural Gas or Y8 Tariff Electric systems.

Saving energy in the garage / workshop

Things that you can do in the garage or workshop to save energy and money include:



- Use the drinks fridge only when you have a need for it, i.e.: large gatherings, parties, etc
- Use the car less – walk or cycle locally and consider public transport when journeying further afield
- When commuting, consider car pooling with a friend or colleague
- Drive smoothly with the traffic flow
- Ensure your tyres are correctly inflated and that your car is tuned
- Don't leave a roof rack on the car – use it only when required

Summary

Using less energy in the home means less pollution, reduced greenhouse gas emissions and more money in your pocket.

Appliances—select energy efficient appliances, especially efficient heating and cooling appliances.

Weatherproofing (draught sealing)—the house should be well sealed from draughts.

Orientation—living room windows should face north to take advantage of the winter sun to help warm the home.

Window sizing and shading—the size of windows and protection of windows from the summer sun can affect comfort in the home.

Zoning and cross ventilation—design the home to allow cooling breezes through the house in summer and only heat / cool areas that you need to.

Insulation—good insulation helps keep warm air in the home in winter and the heat out in summer.

Solar hot water systems can reduce your annual electricity costs on average by 60 – 75%, which could save an average family up to \$165 per year.

Install safety switches—these switches will cut off power to a circuit if there is an electrical fault or leak. Contact a registered electrical contractor or your local electricity provider for further advice.