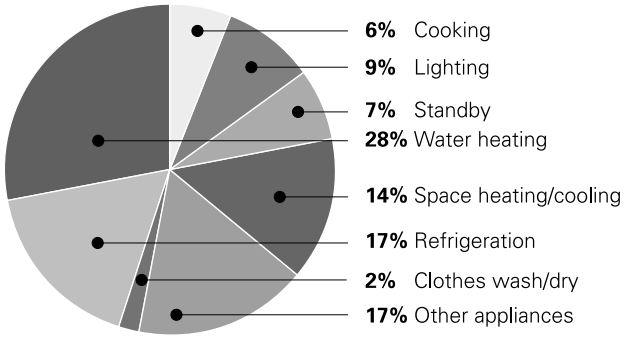
white goods

White goods, such as fridges, freezers and clothes washers, account for a substantial portion of household energy consumption and greenhouse gas emissions.



Greenhouse emissions from home energy use (based on AGO 1999)

By selecting these appliances carefully you can save money and reduce your environmental impact without compromising lifestyle.

CHOOSING AND USING WHITE GOODS

APPLY THE FOLLOWING GUIDELINES

Avoid buying appliances that you don't really need.

If you need to buy an appliance, choose one that is the right size for your needs and is as efficient as possible. Appliance rating schemes can help you to select the most efficient appliance. See page 2.

Operate appliances efficiently by closely following the instructions.

Maintain appliances carefully.

Turn appliances off when not in use, preferably at the power outlet. Many appliances continue to draw "stand-by" power when switched off, contributing up to ten percent of household electricity use. [See: Energy Use Introduction]

Purchase the most efficient appliance available by choosing a Galaxy Energy Award winner. See page 4.

Seek advice from consumer groups, such as the Australian Consumers' Association. See page 4.

Think about the best layout and placement of appliances to maximise efficiency when designing a new laundry or kitchen.

Do you really need it?

This is the first question to ask when you are thinking of buying an appliance. For example:

Do you really need a clothes dryer when you could use the sun and a clothesline without cost?

Do you really need a second fridge?

Can you think of a way to do without an extra appliance, to save both the cost of buying and running it and the environmental impact of its use, manufacture and disposal?

SIZE CONSIDERATIONS

Buy the right sized appliance to suit your needs. A large model with the same star rating as a smaller model uses more energy and generates more greenhouse gas. Ensure the retailer considers what size appliance you need.

LIFECYCLE COST

When choosing an appliance many people ignore the ongoing costs of maintenance and operation.

Ongoing running costs can easily exceed the original purchase price of an appliance so consider the full lifecycle cost when choosing an appliance.

Energy efficient appliances cost less to run and have less environmental impact than similar appliances with lower energy efficiency. Using efficient appliances can save you hundreds of dollars each year in running costs.

Appliance rating schemes can help you to choose the most energy efficient appliance.

white goods

THE APPLIANCE ENERGY RATING SCHEME

The Energy Rating Scheme is a mandatory national labelling scheme for:

- Refrigerators.
- Freezers.
- Clothes washers.
- Clothes dryers.
- Dishwashers.
- Air conditioners.

Look for the Energy Rating Label that shows the star rating and other useful information about energy consumption. Choose an appliance with a high star rating.

Add the purchase cost and the lifetime running cost to get a more accurate picture of the total cost of an appliance. Those with a high star rating sometimes cost more to buy but will save you money through lower energy bills.

Appliances with a higher star rating generate fewer greenhouse gas emissions.

The Energy Rating Label must be displayed on appliances for sale. It gives a star rating between one and six stars. The greater the number of stars the higher the efficiency. Total energy consumption in kWh per year under test conditions is also shown (in the red box). If two suitable appliances have the same star rating choose the one with the lower energy consumption.

The Energy Rating Label was revised in 2000 and the method used to calculate star ratings has changed. For the same appliance the new ratings are lower than the old ratings to give more room for improvement. The old ratings, where they exist, are shown in the green band at the base of the label.

Reverse cycle air conditioners can be used for heating or cooling and their efficiency is different for the two modes of operation. The Energy Rating Label for reverse cycle air conditioners shows separate star ratings and energy consumption figures for heating (in red) and for cooling (in blue).

A detailed website (www.energyrating.gov.au) provides additional information on the Energy Rating Scheme. The site lists the energy rating and approximate annual energy costs for all appliances on sale in Australia. You can search for an appliance that best meets your needs. The site also provides tips on appliance selection and background information on how appliance ratings are determined.

CHOOSING AND USING APPLIANCES

FRIDGES AND FREEZERS

Choosing a fridge or freezer

Running a six star 360 litre fridge will produce almost half a tonne less greenhouse gas each year than a three star model.

Buy appliances that are the right size, especially freezers as their energy demand is high. A larger model will use more energy than a smaller one with the same energy star rating. One large fridge will usually be more efficient than two smaller ones.

Look for features such as easily adjustable shelving, easy access to the thermostat, simple thermostat controls, separate thermostats for fridge and freezer compartments, a door-open alarm and rollers or castors that will make cleaning and operating the fridge easier.

Chest freezers are usually more efficient than upright models as cold air does not escape every time you open the door. Upright freezers with enclosed drawers (not baskets) are a good compromise.

Through-the-door features such as cold water dispensers and ice-makers use more energy and cost more. Avoid these if possible.

Upright units with one door above the other are generally more efficient than units with side by side doors.

A cool cupboard will keep many fruits and vegetables well in most climates, allowing you to choose a smaller fridge. Cool cupboards should be located in the coolest part of the house and have good airflow in at floor level and out at the ceiling.

Using your fridge or freezer

Place the fridge or freezer in a cool spot out of direct sunlight and away from cookers, heaters and dishwashers.

Ensure 75mm air space around all sides of the cabinet. If in an alcove make sure the top is also ventilated.

Make sure the door seal is clean and in good condition. It should hold a piece of paper tightly in place when shut.

Set the fridge thermostat to between 3°C and 5°C. The freezer should be set to between -15°C and -18°C. Every degree lower requires five percent more energy. A fridge thermometer is a good investment.

Avoid overloading the fridge or freezer. Try to leave about 20 percent free space for air circulation.

Defrost manual models regularly or when ice is more than five mm thick.

Turn the second fridge off when not needed. Do not put it in a hot garage or veranda.

Avoid placing hot food in the fridge.

Dispose of old fridges properly to avoid release of ozone damaging CFCs. Your local council should be able to offer advice.

CLOTHES WASHERS

Choosing a washing machine

Choose a washer that's the right size for your needs. An oversized model will often be filled with partial loads.

Select the most energy and water efficient model by looking for the energy stars and watermark.

Front loaders are usually more water and energy efficient. They are gentler on clothes, use less detergent and save space as they can be installed under a bench. They usually have a higher spin speed so clothes come out dryer. Some have only a cold water connection.

Top loaders usually use more water despite shorter wash times. They may be less expensive to buy but are often harsher on clothes. A suds saver feature is very desirable.

Look for models with dual water connection, cold wash cycles and auto load sensing or load size selection. Heating the water for a hot load can generate up to 4kg of greenhouse gas - a cold wash will produce less than 0.5 kg.

Models with a high spin speed and reverse tumble action are also desirable, especially if you use a clothes dryer.

Look for an economy cycle.

Using your Washing Machine

Wash a full load rather than several smaller loads and use suds saver if available. Don't use too much detergent. Making detergent produces a lot of greenhouse gases and using too much pollutes our waterways.

Use the Economy Cycle.

Most of the energy used in washing clothes is for heating the water. Use cold water where possible.

CLOTHES DRYERS

Choosing Clothes Dryers

Consider buying a gas fired or heat pump model clothes dryer. They are more expensive to buy and install but much cheaper to run.

Drying a load of washing in an electric dryer generates more than 3kg of greenhouse gas.

Look for an auto-sensing feature, easily accessible lint-filters and other features such as reverse tumbling and special fabric cycles.

Using Clothes Dryers

Use a clothes line or rack to dry instead of a dryer.

Avoid over loading or over drying.

Do not put wet clothes in the dryer. Part dry or spin dry them first, using the maximum spin speed of the washer.

Clean the lint filter after each load.

Externally vent the dryer to remove moist air from the room.

Run the dryer on medium instead of high.

DISHWASHERS

Choosing a Dishwasher

Choose the right size for your needs so you will not always be washing partial loads. Two drawer models are available and can be more efficient in households where regular small loads are required.

A well designed dishwasher will wash better at lower temperature and with less detergent than a poorly designed one.

Select the most energy and water efficient model by looking for the energy stars and watermark.

Look for models with hot and cold connections or cold connection only. Hot connection only models use much more energy as the whole cycle will use hot water, not just the wash phase.

Research performance well. Basket and rack design is important.

Look for an Economy Cycle.

Using a Dishwasher

Avoid rinsing dishes under the hot water tap.

Scrape plates well before packing the dishwasher.

Always clean the filter between washes.

Run the dishwasher only when fully loaded.

Use cold water cycles as much as possible in dishwashers. Select the cycle with the lowest temperature and the minimum time to get the job done.

Avoid using drying cycles - open the door instead.

Use the Economy Cycle.

GALAXY ENERGY AWARDS

The Galaxy Energy Awards are presented annually to appliances that have the highest star rating in their class under the Energy Rating Scheme and the AGA Gas Energy Rating Scheme.

Special awards are also given for innovation, environmental excellence and retailing.

To buy the most energy efficient appliance available choose a Galaxy Energy Award winner.

Award winners are listed on the Energy Rating Scheme website (www.energyrating.gov.au).

AUSTRALIAN CONSUMERS' ASSOCIATION

The Australian Consumers' Association (ACA) regularly undertakes benchmark testing of products, including a full range of appliances.

The results of these benchmark tests are published in the ACA magazine CHOICE and are available on-line at the ACA website at www.choice.com.au for a fee. Most public libraries subscribe to CHOICE.

The tests often provide information on energy efficiency and environmental impact that can assist in deciding which appliance to buy.

The tests also cover a range of other features such as price, safety, warranty details and performance that can help you to choose the best appliance.

BUILDING DESIGN CONSIDERATIONS


Courtesy of Fisher & Paykel

When designing a new kitchen or laundry, think about the best layout and placement of appliances to maximise efficiency.

Refrigerators and freezers should be located out of direct sunlight and away from other sources of heat such as ovens and stoves. This is an important consideration in kitchen design.

Appliances that require hot water should be located as close to the hot water service as possible to reduce heat losses in pipes.

Other Considerations

Where possible choose appliances that have a 'AAA' rating for water efficiency. [See: Reducing Water Demand]

FURTHER KEY REFERENCES
NSW Sustainable Energy Development Authority's 'Live energy smart' webpage www.seda.nsw.gov.au
Sustainable Energy Authority of Victoria website www.seav.vic.gov.au
'Global warming, Cool it' available on Australian Greenhouse Office website www.greenhouse.gov.au
WA Office of Energy website www.home.energy.wa.gov.au

Principal author: Chris Riedy
Contributing author: Geoff Milne