

live

**Energy
Smart!**

Simple ways to save energy

Energy plays a vital role in our everyday lives. We use it for many purposes including keeping warm in winter and cool in summer, providing light to our homes, refrigerating and cooking our food and heating our water.

As beneficial as energy is to our lives, its use can have undesirable effects on the environment. Just about every time we switch on the light or turn on an appliance, we're contributing to greenhouse gas emissions. On average each Western Australian household produces around 6 tonnes of greenhouse gases every year*.

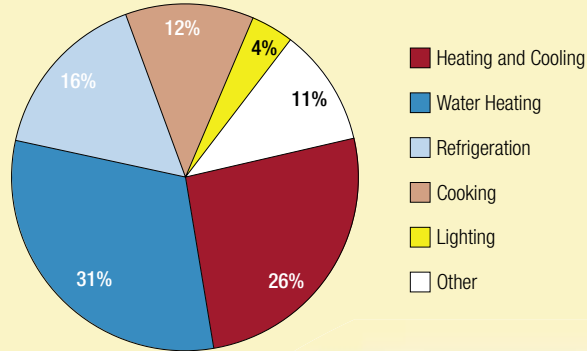
It is important that we all realise the implications of our energy use. Not only can it have an adverse effect on the environment - it also costs us money.

There are many easy and inexpensive ways to reduce energy use at home, most of which simply require a change in behaviour. Some others require a modest investment but will pay for themselves through lower energy bills.

By following the tips detailed in this brochure you'll find that it's easy to live Energy Smart - saving money and helping to protect the environment.

* Excluding energy used for personal vehicles and public transport.

Typical energy use in a WA household



Water heating

Water heating accounts for nearly one third of the total energy used in a typical WA household, so any savings you can make in this area will impact significantly on your total energy use.

- Take shorter showers
- Fix leaky hot water taps as soon as possible



- Use the plug in basins - don't leave hot water taps running
- Try not to use small amounts of hot water frequently - not only do you heat the water you use but also the water left in the pipe
- Set the water heating thermostat to 60°C on storage hot water systems and 50°C on instantaneous systems (if you are unsure of how to do this, contact your manufacturer/service person)
- Locate the water heater close to points of use – long hot water pipes waste hot water
- Insulate the first 2 metres of pipes leaving the hot water storage tank
- Install an AAA rated water efficient showerhead if you have a storage hot water system
- Use a timer on electric-boosted solar water heaters to minimise water heating when not required
- Turn the hot water system off when you go on extended holiday
- When purchasing a new system choose the most energy efficient model for your needs and consider a solar hot water system – rebates are now available to assist with the purchase of solar hot water systems.

Cooling and heating

If your house has been designed correctly and has adequate insulation, your cooling and heating needs should be minimal. Unfortunately, a large proportion of homes in WA are not designed to suit the local climate and many people end up putting up with high energy bills to remain comfortable.

Installing ceiling insulation is the single most significant thing you can do to reduce your cooling and heating requirements. If your household budget doesn't allow for the expense of insulation, there are still a number of simple steps you can take.



Summer

- Shade windows with awnings or verandahs
- Close blinds and curtains during the day to prevent heat entering
- Make use of natural ventilation by opening windows once it's cooler outside than inside
- Seal gaps near doors and windows – up to 10% of a home's heat gain comes through gaps and cracks
- Use fans to create cooling breezes
- Avoid unshaded paving in front of north-facing windows
- Grow deciduous trees or vines on a pergola on the north side of your home to provide shading
- Put off jobs that produce heat or steam, such as cooking, washing or ironing, until cooler times of the day
- Close all doors around the area you are cooling and keep the area to a minimum
- Clean air-conditioner filters regularly and keep external air-conditioners shaded
- Turn off cooling systems overnight or when you are out
- When purchasing a new cooling system choose the most energy efficient model for your needs.

Winter

- Open blinds and curtains during the day to let the free heat of the sun in – up to 3 kWh of heat per square metre of window can be let in per day, which is equivalent to a single bar radiator running for 3 hours
- Close curtains and blinds at night to keep the heat in - curtains with fitted pelmets are the most effective for this purpose
- Block off unused open fireplaces to prevent heat escaping
- Install draught excluders on doors and windows and seal all gaps to the outside
- Grow deciduous trees or vines on a pergola on the north side of your home to let the heat of the sun filter through windows
- Use ceiling fans to circulate warm air - reversible ceiling fans are best, as they can circulate warm air without passing a breeze over your skin
- Heat only the rooms you are using by closing doors to unheated areas*
- Keep heaters clean for maximum performance – keep reflectors shiny and dust free and clean air filters frequently
- Turn off heating appliances overnight or when you are out
- Consider timers for portable electric heaters so you can program the heater to come on shortly before you wake up, rather than running it all night
- Use electric blankets in preference to room heaters in bedrooms and switch them off after getting into bed
- When purchasing a new heating system choose the most energy efficient model for your needs.

Without insulation your home quickly loses heat and soon becomes cold. Heat is lost through the ceiling, walls, windows and the floor. Together these losses account for up to 70% of the heating bill for an uninsulated home. Since hot air rises, the ceiling is the main problem but this heat loss can be easily reduced. Ceiling insulation is remarkably effective and can reduce your winter heating bill by up to 30%.

* Unflued gas and kerosene heaters should not be used in closed off rooms as they require proper ventilation. They must never be used in bedrooms or bathrooms.

Refrigeration

Keeping your food cold can be a major area of energy use. This is mainly because your fridge/freezer runs for a large part of the day, everyday.

- Locate fridges and freezers away from the sun or heat producing appliances, such as cookers and dishwashers
- Don't overload or underload the fridge – try to leave free space for air circulation
- Check the fridge seal regularly to make sure it's tight - place a piece of paper between the seal, if it doesn't move easily it's a good seal
- Keep the fridge door shut as much as possible
- Thaw frozen food in the fridge - by making your fridge cooler it won't have to work so hard
- Keep the inside temperature of your fridge between 3°C and 5°C and the freezer between -15°C and -18°C (every degree lower requires 5% more energy)
- Defrost freezers regularly following the manufacturers instructions
- For fridges with exposed condenser coils, ensure that air can circulate behind the fridge and clean the coils annually
- For fridges without exposed condenser coils, allow adequate air circulation on both the back and sides of the fridge
- Turn the fridge off when you go on extended holiday and try to keep the door open to keep the fridge fresh
- If you have more than one fridge, switch the additional one off when not needed
- When purchasing a new refrigerator or freezer look for the energy rating label – the more stars, the more energy efficient.



Cooking

This is one area where simple actions can usually be taken to reduce energy use at no extra cost.

- Use small appliances where possible – use the microwave over a conventional oven, the toaster over the grill, the kettle over the hotplate
- Put fitted lids on pots as much as possible
- Match the size of pots to the size of the element or flame area
- Boil only the amount of water you need
- Use steamers and pot dividers to cook all your vegetables at once
- Let frozen foods thaw before cooking
- Avoid opening the oven door unnecessarily when cooking
- Check the seal on the oven door – make sure it's clean and in good condition
- Keep preheating times in electric ovens to a minimum. Preheating is not necessary in a gas oven.
- Ensure adequate ventilation in cooking areas to remove hot, humid air
- Cook outside on the BBQ on hot days to avoid heating the house.

Lighting

While not the most significant contributor to your energy bill, smart use of lighting can be an easy way to cut back on energy use.

- Turn lights off when not needed
- Use fluorescent lighting in rooms where light is required for long periods
- Use task lighting over areas where work is carried out and incorporate dimmer switches where you may not always require strong lighting
- Use incandescent globes in areas of your home where light is used for short periods of time, such as walk-in cupboards and toilets.



- Make the best use of daylight, but take care to limit direct daylight during summer
- Use the lowest wattage light needed to adequately light up an area
- Keep lights and fittings clean
- Avoid using downlights for general lighting
- Avoid using multiple globe fittings
- Place switches at exits of rooms to encourage people to turn off lights and use two way switches where possible
- Avoid having several lights activated by one switch – use separate switches for each light
- Paint rooms light colours. Dark wall, ceiling and curtain colours absorb light, increasing the amount of lighting needed
- Use motion detectors or timers for outdoor security lighting.

If all WA households replaced just one 75W incandescent globe used for four hours each day with an 18W compact fluorescent lamp, greenhouse gas emissions would be reduced by over 55,000 tonnes each year – which is equivalent to taking 12,000 cars off the road!

Clothes washing

- Use cold water as much as possible
- Wash a full load rather than several smaller loads
- Separate heavily soiled clothes from lightly soiled ones
- Adjust the cycle to match the load and use energy saving or economy cycles where possible
- When purchasing a new washing machine look for the energy rating label – the more stars, the more energy efficient.



Clothes drying

- First and foremost - use a clothes line or rack instead of a dryer as much as possible. The sun's energy is free!
- Spin clothes as much as possible before placing in the dryer
- Dry heavy items separately from light ones
- Clean the lint filter in the dryer after every load
- Use the correct temperature setting for the type of clothes
- Avoid over loading or over drying
- When purchasing a new dryer look for the energy rating label – the more stars, the more energy efficient.

Dishwashing

By hand

- Rinse dishes in cold water
- Use the plug in the sink rather than letting the water run continuously
- Use only the water you need – you may not need to completely fill the sink every time.

Using a dishwasher

- Rinse dishes in cold water before placing in the dishwasher
- Wait until the dishwasher has a full load before running

- Use energy saving or economy cycles where possible – select the cycle with the lowest temperature and the minimum time to get the job done
- Connect the dishwasher to cold water so it heats its own water – it should heat to a lower temperature than your hot water system which can heat water to over 60°C
- Turn the dishwasher off before the final drying cycle – open the door and let the dishes dry naturally
- Load the dishwasher to manufacturers instructions
- Clean the filter after each wash
- When purchasing a new dishwasher look for the energy star rating label – the more stars, the more energy efficient.



Home office and entertainment equipment

- Switch off electronic equipment at the power point to avoid using electricity in standby mode - especially when you go on holidays
- Ensure that home office equipment is ENERGY STAR® compliant and make sure it's enabled
- Switch off computers and printers if you won't be using them for half an hour or more.

Outdoors

- Grow deciduous trees or vines on a pergola on the north side of your home to let the free heat of the sun filter through windows while providing shading in summer
- Put timers on pump-driven reticulation systems
- Use a properly fitted pool cover and a solar pool heater to maximise passive pool heating
- Use a timer on your pool pump and reduce its operating time over winter.

Buying a new appliance

When choosing a new appliance, first determine the appropriate size for your needs then look for the most efficient option in that size range. The energy rating label will help you choose. It tells you how energy efficient the appliance is – the more stars, the more efficient and the lower the operating costs. This also means reduced greenhouse gas emissions.

Keep in mind that a large model with the same star rating as a smaller model uses more energy and generates more greenhouse gases. To clarify energy use between two models be sure to look at the red box on the energy rating label – it shows the energy consumption per year in kilowatt hours (kWh).

Energy rating labels are compulsory on most major electrical appliances, including refrigerators, freezers, dishwashers, clothes washers, clothes dryers and air-conditioners. They are also displayed on gas hot water systems and heaters, although are not compulsory on these appliances. For more information on appliance energy ratings ask about the range of *Reach for the Stars* brochures available from the Sustainable Energy Development Office's Energy Smart Line.



More Information

If you want to know more about saving energy at home, phone the **Sustainable Energy Development Office's Energy Smart Line on 1300 658 158** or visit our web site at **www.sedo.energy.wa.gov.au**

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