ENERGY ADVISORY SERVICE

Home Heating and Cooling Guide

2025-26

Information to keep your home warmer in winter, cooler in summer and lower your energy use.

Government of South Australia

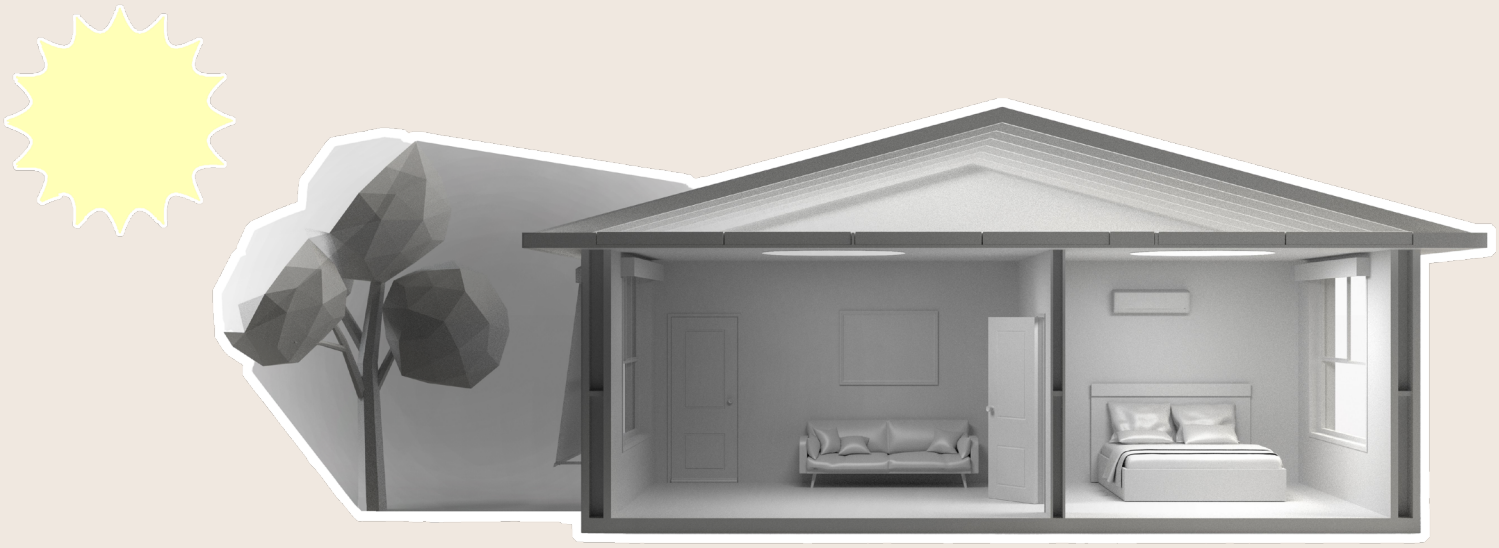
Prepare your home for summer

Heating and cooling account for about 30-40% of the energy used in a typical Australian home. There are many ways to keep cool in summer that can reduce your need for cooling appliances and will help lower your energy costs.

Keep heat out with shade

Shading the north and west sides of your home by using adjustable external blinds, leafy trees, or simply closing curtains and blinds, will keep your home cooler in summer.

If your home gets too hot during the day, the insulation in your ceilings and walls will keep the heat inside during the evening. Always aim to keep your house shaded, particularly the windows.



Leafy trees and external blinds can help prevent summer sun from shining directly through your windows and heating up your home.

Insulation

Installing insulation in your ceiling and walls can significantly reduce the amount of heat transferred into your home. This diagram shows where a typical uninsulated home gains heat, with most heat gained through ceilings, walls and windows.

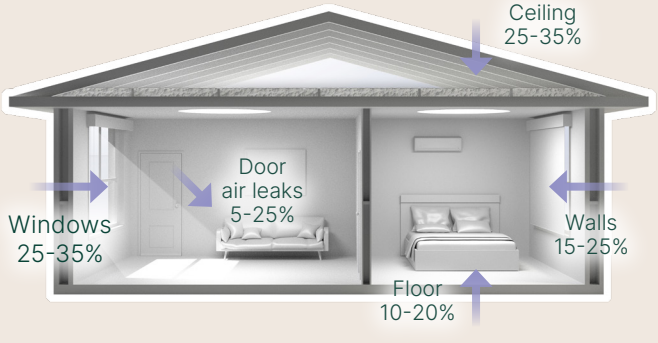
Ceiling insulation is a requirement in all new homes, and any additions to pre-existing homes. But keep in mind that insulation deteriorates over time and gradually becomes less effective. Topping up or replacing your old insulation can make a big difference to keeping your home cool.

If you don't have ceiling insulation, it's strongly recommended you have it installed. If you rent, ask your landlord to have it installed if it isn't already.

When choosing an insulation installer, check they have a South Australian builder's licence that permits them to install insulation.

Insulation is measured by its R-value, so make sure to ask the installer about the best R-value for your home and specific needs.

Visit **yourhome.gov.au/insulation** for more information.



Typical heat gain of an uninsulated home in summer.

Make your cooling more effective

When using a refrigerative air conditioner, only cool the areas you need by closing internal doors, or by using the zone controls. Sealing gaps around doors and windows and using draught excluders under doors will reduce wasted energy, and will properly insulate your home.

Evaporative coolers work differently. Opening some doors or windows will increase air flow and improve the effectiveness of the system.

Research your cooling system online or follow the manufacturers instructions to ensure you are using it effectively and efficiently.

Also consider if you still need to use your cooling system at night. If it is cooler outside, you can save energy by turning off your cooling system and opening windows and doors. This allows breezes and cross ventilation into your home. Remember to use window and screen door locks for security.

Using cross ventilation is an effective way to cool your home.

Other tips and tricks

Below are some simpler steps to help keep you cool this summer:

- Setting your thermostat to 24 - 27°C, or as high as is comfortable for you, will reduce running costs.
- Switch off and avoid using unnecessary appliances where possible, especially those that generate heat. For example, chargers, televisions, computers, and lights with warm bulbs.
- Invest in some house plants as they help improve air quality in your home and can provide extra shading near windows. They can also absorb some heat.
- Where possible, use lighter coloured materials around the house. Dark colours absorb more light and radiate it as heat. The same applies for your roof. If ever replacing or repainting your roof consider a lighter colour.
- Remove floor rugs to expose cooler flooring such as tiles and floorboards.
- Ensure fans are switched to summer mode.
- Follow the maintenance instructions for your cooling appliances and have them serviced regularly. This may include regularly cleaning the filters, fan blades or vents.
- Take action during the day, to prevent cooling a hot house in the evening. For example, close blinds and curtains before the sun hits the window and heats the room. Consider using your air conditioner on a timer while you're not home, to maintain a cooler house during the day.

Cooling appliances

Shopping for a cooling appliance requires a number of considerations.

The bigger the space you cool, the more energy you use and the higher your running costs will be. Read the information below and think about what will be best for your needs.

Fans

- are the cheapest type of cooling appliance to run
- create air movement that helps carry heat away from you and move natural breezes through your home
- can be used at the same time as other cooling appliances to help move cool air around your home.

Refrigerative air conditioners

- cool air to a set temperature by removing heat from the room
- work better in humid or higher summer temperatures, but typically cost more to run than evaporative coolers
- work best in well-insulated and draught-proofed homes with closed windows
- work more efficiently when zoning controls are used, and doors are closed to unused rooms or spaces
- reverse cycle systems can be used for both heating and cooling.

Evaporative coolers

- use water and a fan to blow cool, humidified air into your home
- use small amounts of energy but also have a small, additional water cost
- work well in dry weather but can be less effective when it's humid
- need good ventilation
- can also be operated as a large fan without the water cooling.

Ducting

- if your ducting is poor quality or has deteriorated, it may be wasting energy and losing a lot of cool air
- a qualified professional can help reduce the loss of air by sealing or insulating your ducts
- when purchasing a system or replacing ducting, look for an R-value of at least 1.5 for the ducting, and 0.6 for the fittings.

Electricity Pricing and Plans

Electricity plans can include different charges depending on the time of day and/or amount of energy you use. It's worth knowing if you are on a flat rate or time of use plan and adjust your usage accordingly.

Flat rate

Customers on a flat rate are charged the same rate for electricity all day. Some flat rate plans may be tiered depending on the amount of electricity you use. Customers on a flat rate typically have an older type of electricity meter on their home (not a smart meter).

Time of use (ToU)

If you have a smart meter, it is likely that you are on a time of use plan. This means you are charged different rates for your electricity depending on the time of day you are using it. Your energy retailer will set the prices for each usage period.

Typically, these periods are:

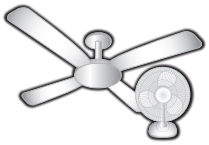
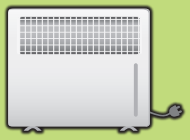
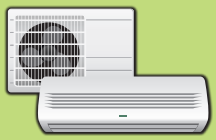
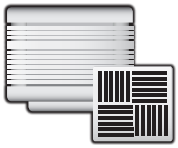
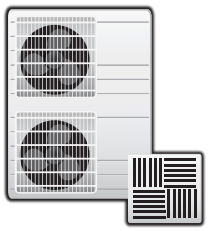
- Peak (6am-10am and 4pm-12am)
- Off-peak (12am-6am)
- Solar Sponge (10am to 4pm).

You could benefit from ToU pricing if you:

- are home during the cheaper tariff period (middle of the day) and shift using your appliances to this time
- can set timers on appliances to operate during the cheaper tariff period (middle of the day) while you're not home
- have a home battery that can store solar power for use in the more expensive tariff periods (morning, late afternoon and night).

If you aren't satisfied with your current energy provider consider looking for a better deal on the Commonwealth Government website Energy Made Easy at **energymadeeasy.gov.au**

For more information about running costs, visit **www.sa.gov.au/energy/runningcosts**

Cooling appliance	Hourly running costs[1]		Works best in
Ceiling and portable fans 	**Flat rate** 3 - 5c	**Time of Use** 2 - 3c (shoulder) 3 - 4c (off-peak) 4 - 5c (peak)	Models available for all room sizes and spaces
Portable evaporative 	**Flat rate** *Includes water costs* 5 - 6c	**Time of Use** *Includes water costs* 3 - 4c (shoulder) 4 - 5c (off-peak) 6 - 8c (peak)	Rooms up to 20 m² 
Portable refrigerative 	**Flat rate** 55 - 75c	**Time of Use** 31 - 41c (shoulder) 43 - 59c (off-peak) 67 - 90c (peak)	
Medium split window refrigerative system 	**Flat rate** 44 - 60c	**Time of Use** 24 - 33c (shoulder) 35 - 47c (off-peak) 53 - 72c (peak)	Rooms up to 36 m² 
Large split refrigerative system 	**Flat rate** 69 - 93c	**Time of Use:** 38 - 52c (shoulder) 54 - 73c (off-peak) 83 - 72c (peak)	Rooms up to 75 m² 
Ducted evaporative system 	**Flat rate** *Includes water costs* 44 - 59c	**Time of Use** *Includes water costs* 24 - 33c (shoulder) 34 - 47c (off-peak) 53 - 72c (peak)	Whole-of-house (200 m² home with 125 m² cooled) 
Zoned ducted reverse cycle air conditioner 	**Flat rate** $1.79 - $2.43	**Time of Use** $99 - $1.35 (shoulder) $1.41 - $1.90 (off-peak) $2.17 - $2.93 (peak)	

1 Running costs are a guide only and include heating and cooling cost ranges, where applicable. Contact your appliance manufacturer for specific running costs. Calculations are based on AGL electricity and gas standing offers, which are generally aligned with the Default Market Offer (DMO) – and average firewood costs. Account for usage of solar generation or battery storage in your home, if applicable. For more information, contact the Government of South Australia's Energy Advisory Service.

Prepare your home for winter

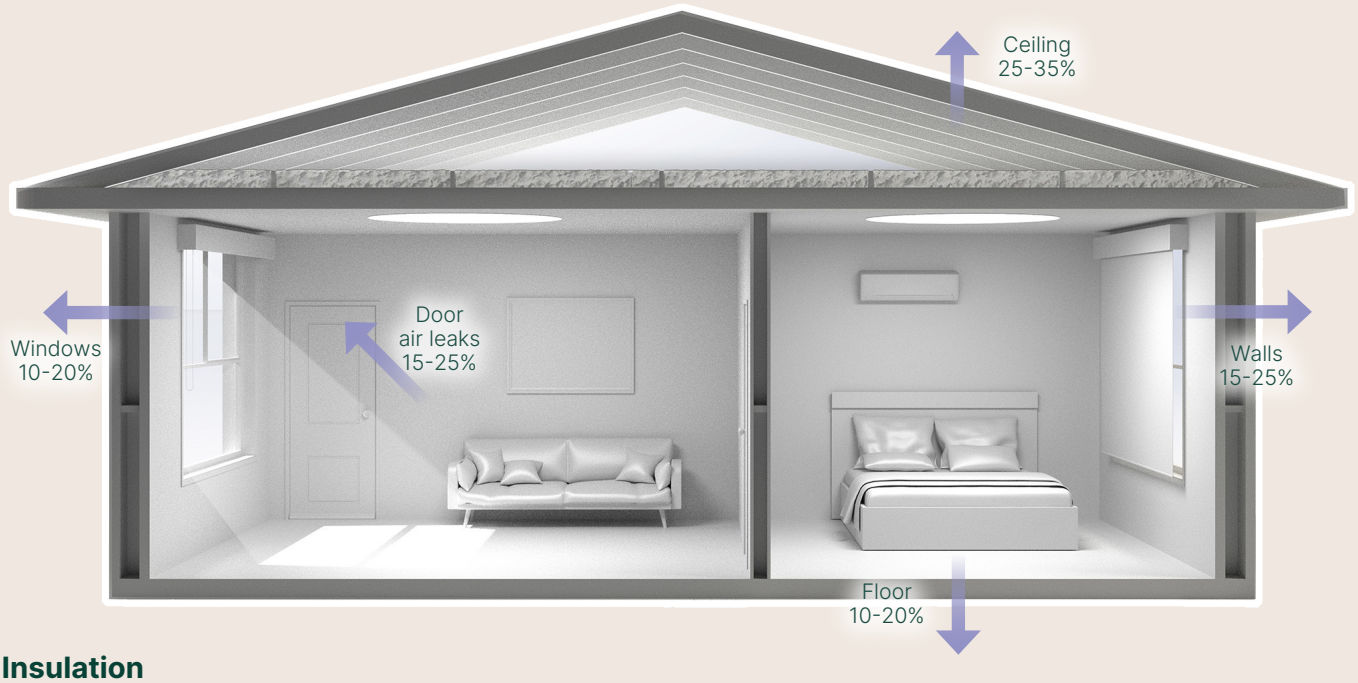
The following guide provides practical advice on how to efficiently keep your household warm and comfortable this winter.

This is a guide only

Please consider any personal circumstances and/or medical conditions that may be impacted when considering the below information. If in doubt, contact your doctor for individual advice.

Heat loss from the home

No one wants to spend more than neccessary to heat their home. Make sure you understand where your house may be losing heat before turning on your heater this winter. The below diagram shows where heat is lost from a typical home.



Insulation

Effective insulation can help reduce up to 60% of the heat lost through your ceiling and walls.

Ceiling insulation is a requirement in all new homes and any additions to pre-existing homes. Keep in mind that insulation deteriorates over time and gradually becomes less effective. Topping up or replacing your old insulation can make a big difference to heat retention in your home.

If you don't have ceiling insulation, it's strongly recommended you have it installed. If you rent, ask your landlord to have it installed.

When choosing an insulation installer, make sure they have a South Australian builder's licence that permits them to install insulation. Insulation is measured by its R-value, so make sure to ask the installer about the best R-value for your home and specific needs.

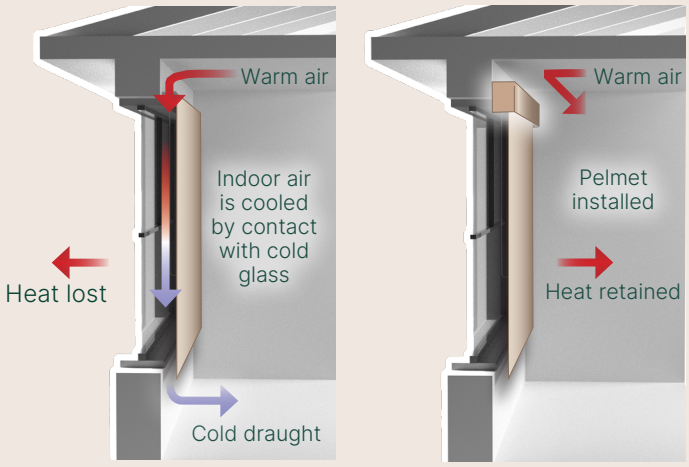
Visit yourhome.gov.au/insulation for more information.

Curtains and pelmets

Up to 20% of your heating can also be lost through your windows.

Thick curtains with pelmets are an effective way to insulate windows, keeping rooms warmer in winter.

The diagrams to the right show how warm air is cooled when it meets a cold window. Pelmets closed at the top minimise air flowing between the curtains and the windows, reducing heat loss.



Passive heating techniques

A Let the sun shine into your home

Use the sun to help heat your home for free. Open curtains and blinds during the day and move any large objects that may be blocking light from getting into the room.

If the sunlight warms a tiled or concrete floor, heat will be stored and released later, warming your home into the evening.

C Draught proofing

Cracks and gaps can cause draughts and lose large amounts of heat from your home.

Simple changes, like using draught excluders under doors, sealing strips around doors and window frames and filling gaps, could help reduce your heating costs.

B Only heat the areas you need

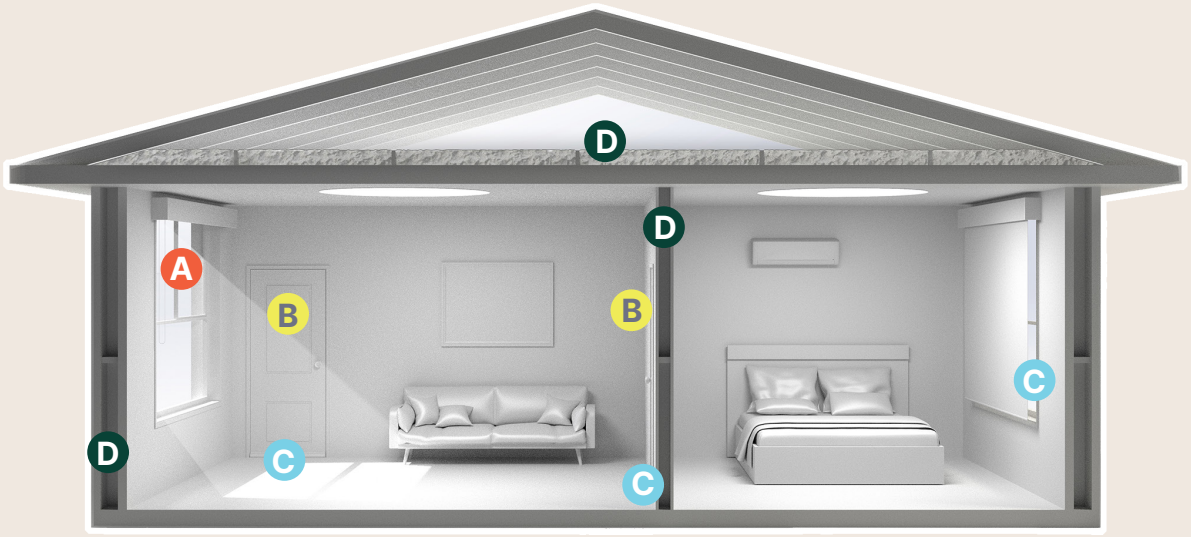
The larger the area you heat, the more energy you will use and the higher your running costs will be.

Divide your home into sections (or zones) by closing doors to only heat the areas you're using to reduce your heating costs e.g. heat only your living areas during the day if you're not using your bedrooms.

D Insulation

Insulation is any material that reduces the amount of heat transferred in to or out of your home through the ceiling, walls, windows, doors and floor.

Refer to page 2 for further information.



Heat the person, not the room

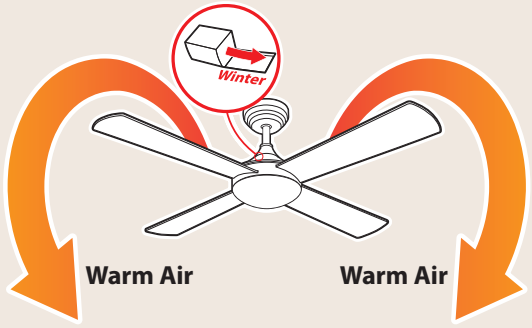
In some circumstances you may find it more efficient to heat yourself directly rather than the air in the room. Consider adding extra layers of clothing or using hot water bottles, wheat bags or inexpensive electric rugs or blankets.

Before you turn on the heater, look at how many people are you trying to heat, and how big the room is.

Other tips and tricks

Below are some simpler steps to help keep you warm this winter:

- Adjust your heater's louvres towards the floor, as hot air rises.
- Setting your heater's thermostat to 18°C – 21°C or as low as you're comfortable with, will lower your running costs. One degree lower can save about 10% in running costs.
- Follow the maintenance instructions for your heaters and have them serviced regularly.
  This may include regularly cleaning the filters, fan blades or vents.
- Dress appropriately for the cold. Keep your feet and head warm as best you can with socks and beanies.
- Reversible ceiling fans assist with heating by moving warm air around a room. Warm air rises and collects in a layer just below the ceiling. If your ceiling fan has a reversing switch, change it to the 'winter' setting to circulate this warm air throughout the room.
- Warm food and drinks can also help to keep you warm.



Heating appliances

Shopping around for a heating appliance requires a number of considerations.

Consider the area (person vs room vs house)

It is important to think about the size of the area you are trying to heat and how the area is used.

- If you're aiming to heat one or two people sitting around for long periods of time, watching television or reading for example, electric rugs or blankets which heat you directly are the most cost-effective option.
- For small to medium spaces where people will be frequently moving around, consider a small reverse cycle air conditioner. They're a cheaper investment long term if you can afford the upfront cost.
- To heat large areas or an entire home, consider a larger zoned heating system, but these can be costly depending on how many zones you use.

Choose a safe option

- Remember gas heaters require ventilation - see carbon monoxide safety in this guide.
- Small floor heaters may not be the safest option for homes with young children and/or pets.

Think through the specifics

- Compare the purchase, install and running costs of the appliances you're considering. Also consider the product lifespan and warranty.
- Look into convenience features such as timers, child lock and remote controllers.
- Consider gas connection costs if you want to purchase a gas heater but don't have a gas connection to your home. If you already have a gas connection, it may be more cost effective to install a gas heater rather than an electric one - see energy rating labels in this guide.
- If you're considering a heating system to heat your entire home, talk to a heating specialist about the best option for your needs and the associated costs.

Electricity Pricing and Plans

Electricity plans can include different charges depending on the time of day and/or amount of energy you use. It's worth knowing if you are on a flat rate or time of use plan and adjust your usage accordingly.

Flat rate

Customers on a flat rate are charged the same rate for electricity all day. Some flat rate plans may be tiered depending on the amount of electricity you use. Customers on a flat rate typically have an older type of electricity meter on their home (not a smart meter).

Time of use (ToU)

If you have a smart meter, it is likely that you are on a time of use plan. This means you are charged a different rate for your electricity depending on the time of day you are using it (tariff period). Your energy retailer will set the prices for each tariff period. Typically, these periods are:

- Peak (6am-10am and 4pm-12am)
- Off-peak (12am-6am)
- Solar Sponge (10am to 4pm).

You could benefit from ToU pricing if you:

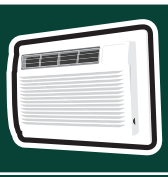
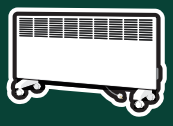
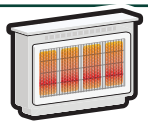
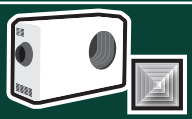
- are home during the cheaper periods (eg. middle of the day) and shift using your appliances to this time
- can set timers on appliances to operate during the cheaper periods
- have a home battery that can store solar power for use in higher tariff periods (morning, late afternoon and night).

Gas plans generally have tiered charges. Tiered charges mean you get charged different rates depending on how much gas you use over your billing period.

Your energy bill will detail which plan you are on, but if you are not sure contact your energy retailer directly.

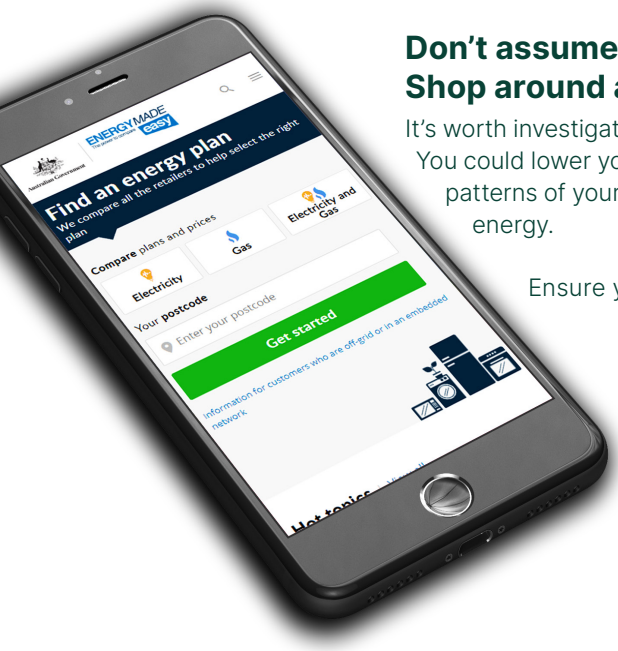
If you aren't satisfied with your current energy provider consider looking for a better deal on the Commonwealth Government website Energy Made Easy at **energymadeeasy.gov.au**

For more information about running costs, visit **www.sa.gov.au/energy/runningcosts**

Heating appliance	Hourly running costs[1]		Works best in/on
Electric heated rug 	**Flat rate:** 4-6c	**Time of Use:** 2-3c (shoulder) 3-5c (off-peak) 5-7c (peak)	1 or 2 people in one place 
Electric blanket 	**Flat rate:** 5-7c	**Time of Use:** 3-4c (shoulder) 4-5c (off-peak) 6-8c (peak)	
Electric radiant heater (1 kW) 	**Flat rate:** 40-54c	**Time of Use:** 22-30c (shoulder) 31-42c (off-peak) 48-65c (peak)	
Small reverse cycle air conditioner 	**Flat rate:** 10-14c	**Time of Use:** 6-8c (shoulder) 8-11c (off-peak) 13-17c (peak)	Small room floor space 12 m² 
Electric panel heater 	**Flat rate:** 48-65c	**Time of Use:** 26-36c (shoulder) 37-51c (off-peak) 58-78c (peak)	
Electric portable heater (2.4 kW) 	**Flat rate:** 96c-$1.30	**Time of Use:** 53-72c (shoulder) 75c-$1.01 (off-peak) $1.15-$1.56 (peak)	
Reverse cycle air conditioner 	**Flat rate:** 37-50c	**Time of Use:** 20-28c (shoulder) 29-39c (off-peak) 44-60c (peak)	Large room floor space 36 m² 
Gas heater 	**Flat rate:** 50-59c		
Small combustion fire 	**Flat rate:** 60-82c		
Zoned ducted reverse cycle air conditioner 	**Flat rate:** $1.50-$2.02	**Time of Use:** 83c-$1.12 (shoulder) $1.17-$1.59 (off-peak) $1.80-$2.44 (peak)	Whole of house floor space 200 m² 
Zoned ducted gas heating 	**Flat rate:** $2.92-$3.20		

1. Running costs are a guide only. Calculations made at the time of publication. Costs are based on AGL electricity and gas standing offer, which for electricity are generally aligned with the Default Market Offer (DMO). For more information, contact the Government of South Australia's Energy Advisory Service - email energyadvice@sa.gov.au

Are you getting the best energy deal?



Don't assume your energy retailer is offering you the best deal. Shop around and switch to save!

It's worth investigating other offers to see if there is a better energy plan to suit your needs. You could lower your energy bills by choosing a plan that is better suited to the energy usage patterns of your home, by switching energy retailers, or by changing how and when you use energy.

Ensure you are getting the best deal for you:

1. Check plans avaliable to your area on the Australian Energy Regulator's *'Energy Made Easy'* website at **energymadeeasy.gov.au**
2. Use other energy retailers plans as a negotiating point with your current retailer.
3. Switch to a new retailer if your current retailer can't provide the better deal.

It is important to understand that eligibility for different plan types (e.g. flat rate or time of use) will vary depending on your location and meter type. To confirm eligibility you need to contact the energy retailer directly.

Always read the terms and conditions of your contract!

Energy plans can vary significantly and it is crucial for you to understand what you are signing up for. If you have questions contact the energy retailer directly for further information.

The Home Energy Toolkit

Audit how energy is used around your home with the tools and information available in our free Home Energy Toolkits.

Save energy and money

The toolkit includes:

- Appliance meter which measures appliance energy use, stand-by power, cost and greenhouse gas emissions.
- Infrared thermometer to measure the temperature of your hot water and pinpoint hot and cold spots in a room.
- Spirit thermometer to measure room, fridge and freezer temperatures.
- Compass to identify which direction your home faces to make the most of free heating from the sun in winter, or areas to shade in summer.
- Stopwatch to calculate the water flow rate from your showers and taps.
- Home Energy Toolkit Audit Guide with information, pictures and diagrams to help you carry out your audit.

Toolkits are available to borrow for free from most metropolitan and regional libraries in South Australia. Contact your local library to check availability.

Toolkits are not available for sale to individuals.

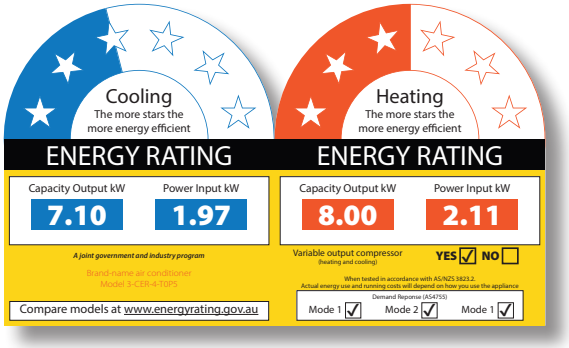
More information on how to conduct an energy audit at your home is available at **energyadvice.sa.gov.au**

Energy rating labels

Most heaters and coolers have an energy rating label like the ones pictured below.

You can use these to compare the energy use and efficiency of similar sized appliances - the more stars the better.

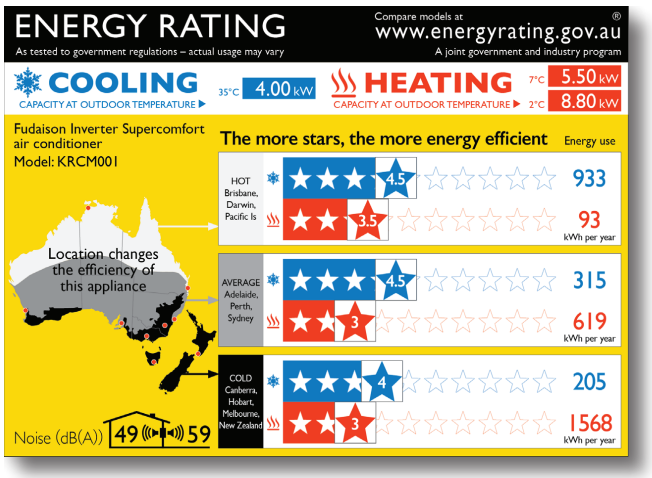
Knowing how much your appliance costs to run will help you keep track of your energy costs.



Zoned energy rating labels

These labels feature different energy efficiency ratings depending on which of the three climate zones (hot, average or cold) an air conditioner is used in.

This helps you make meaningful comparisons when shopping, and also enables retailers to promote different air conditioners better suited to different regions.



Find out more about energy rating labels at **energyrating.gov.au**

Heat your home safely

Heaters can be dangerous if they are not used safely.

Keep your home and the people in it safe by following a few simple safety tips.

- Don't leave children or pets unattended around any heater that is within their reach.
- Heaters should not be left unattended.
- Don't place portable heaters next to curtains, tablecloths, or wet laundry etc. as this can cause fires.
- Keep any flammable liquids and materials at least one metre away from heaters.
- Never plug a heater into a power board, double adaptor or extension cord with other appliances, as these may overload and cause a fire.
- Regularly service and maintain your heater according to the manufacturer's instructions.
- Check that your heater's power cord and plug are in a good condition before using it.
- Always ensure you have a licensed professional install heating systems in your home.

Carbon monoxide safety

Carbon monoxide is a colourless, odourless and tasteless poisonous gas. It is produced when gas doesn't burn properly and is very hard to detect, so it is often called the silent killer.

If you are using a gas room heater, always check with a licensed gas fitter that the room has enough ventilation to avoid the build up of carbon monoxide or other dangerous gases.

Always have gas heaters installed and regularly serviced by a licensed gas fitter. Be sure to get a certificate of compliance for any installation work.

Never use outdoor gas heaters inside, including camping heaters, as they release dangerous combustion gases and are a high fire risk.

LPG cylinders should never be used inside. Where LPG appliances are used, the gas cylinder should be located outside with the gas supply piped inside by a licensed gas fitter.

More energy information

Environmentally sustainable building, buying or renovating homes

The Commonwealth Government's **Your Home website** offers guidance for building, buying or renovating a home. It shows how to create a comfortable home with low impact on the environment – economical to run, healthier to live in and adaptable to your changing needs.

Visit the website at:
yourhome.gov.au

Are you eligible for a concession?

Call the **Concessions Hotline** on **1800 307 758** or visit **sa.gov.au/concessions** to find out if you can get financial help with your energy bills.

Help to resolve a dispute with your energy retailer

Energy and Water Ombudsman South Australia offers a free independent service to all South Australian residential and business customers, and can help resolve disputes with gas and electricity retailers.

Call **1800 665 565** or visit **ewosa.com.au**

Rebates and Assistance

For all other **Rebates and Assistance** that may assist you in your home, including **REPS, The Cheaper Home Battery Scheme** and the **SA Gov VPP** - please refer to: www.energy.gov.au/rebates

Contact the Energy Advisory Service for free energy advice

Online: sa.gov.au/energy
Email: energyadvice@sa.gov.au
Phone: 8204 1888 or 1800 671 907 (free call from fixed lines)

Government of South Australia

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