

# Summer cooling guide

## 2013-14

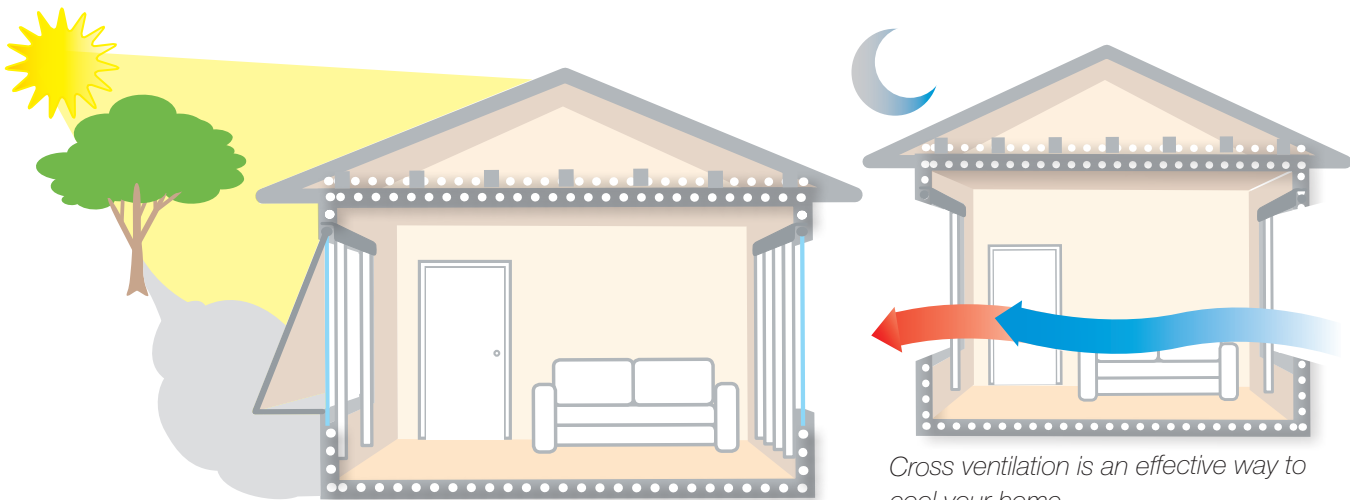
How to stay cool and comfortable in your home this summer

There are many ways to keep your home cool in summer which can reduce your need for cooling appliances and lower your energy costs.

### Shading and insulation

Keep out unwanted heat by shading the north and west sides of your home and having insulation installed. Adjustable external shading, deciduous trees, or simply closing curtains and blinds will keep your home cooler in summer,

without blocking out winter sun. Insulation in your ceiling and walls can significantly reduce the amount of heat transfer into your home. Be aware that if you insulate without shading, your home can get very hot and insulation will keep this heat inside. Shading will reduce this happening.



*Cross ventilation is an effective way to cool your home.*

### Opening and closing your home for effective cooling

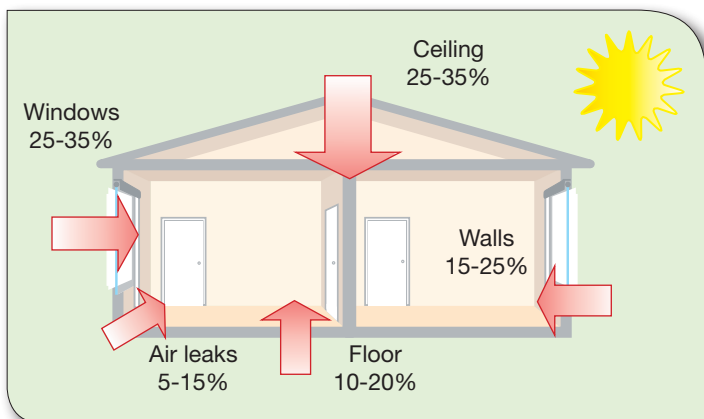
When using a refrigerative air conditioner, only cool the areas you need by closing internal doors, or using the zone controls on a whole of house system. Sealing gaps around doors and windows, and using draught excluders under doors will also reduce wasted energy.

Evaporative coolers work differently. Opening some doors or windows will increase air flow and improve the effectiveness of the system. Whichever cooling appliance you're using, if it is cooler outside, eg at night, you can save energy by turning your system off and open windows and doors to allow cool breezes into your home. If possible use window locks or lockable screen doors to keep your home secure.

## More about shading and insulation

The diagram below shows where heat is gained in a typical uninsulated home. Up to 60% of heat can be gained through your ceiling and walls.

Insulation and shading windows are effective ways to limit the amount of heat entering your home. If you don't have ceiling insulation consider having it installed. If you rent, ask your landlord if they will have it installed.



Typical heat gain in summer from an uninsulated home  
source: [yourhome.gov.au](http://yourhome.gov.au)

Insulation can deteriorate over time so ensure it is replaced or topped up when it is no longer effective.

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

Insulation is measured by its R-value. Seek advice about the best R-value for your home and needs.

Visit [sa.gov.au/energy](http://sa.gov.au/energy) for more information.

## Cooling options

### Fans



Ceiling and portable fans (eg desk and pedestal) are the cheapest type of cooling appliance to run.

While they do not cool air, they create air movement which helps to carry heat away from the body, making you feel cooler.

They can also be used to complement other cooling appliances by moving the cool air around your home.

## Evaporative coolers

Evaporative coolers use water and a fan to blow cool humidified air into your home and have very low running costs. They are well-suited to South Australia's dry climate, but can be less effective on humid days.

Systems available include whole of house ducted systems or portable systems. Ducted systems should be appropriately sized for your home.

To work effectively evaporative coolers need good ventilation so the cooled air can replace the warm internal air. This can be achieved by opening some windows or doors.

Portable evaporative coolers also need air flow to operate effectively, so place the cooler near an open window or door.

If possible use window locks or lockable screen doors to keep your home secure.

## Refrigerative air conditioners

Refrigerative air conditioners cool air to a set temperature by removing heat from the room.

Systems available include portable, wall/window, split and whole of house ducted systems. Reverse cycle air conditioners are refrigerative systems that can also be used as heaters.

Refrigerative air conditioners cost significantly more to run than evaporative coolers, but work effectively in all weather conditions. Systems should be appropriately sized for the area you want to cool.

To help minimise a refrigerative air conditioner's running costs and improve its effectiveness you should ensure your home is well-insulated and draught-proofed.

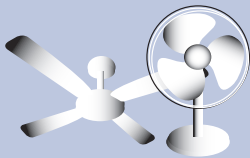




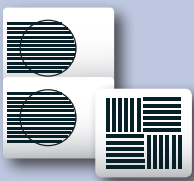
The larger the area you cool, the more energy you will use and the higher your running costs will be. Dividing your home into sections or zones, by closing doors, or using the zoning control on a whole of house system, allows you to only cool the areas you're using and reduce your cooling costs.

## Ducting

In ducted systems, the ducting carries the cool air from the system to your rooms. Energy can be wasted and cool air lost if the ductwork is of poor quality or has deteriorated with age. When purchasing a system or replacing ducting, look for an R-value of at least 1.5 for the ducting, and 0.4 for the fittings.

## Types of cooling appliances, running costs and operating tips

Use the table below to help choose the best cooling appliance for your needs.

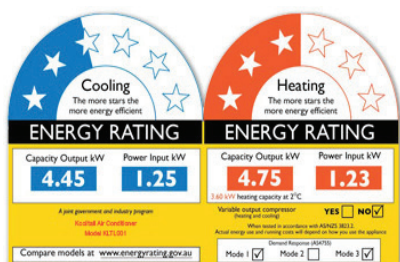
Cooling appliance	Hourly running costs <sup>A,B</sup>	Works best in	Operating tips
Ceiling and portable fans 	1-3¢ depending on size	Models available for all room sizes and spaces	<ul style="list-style-type: none"> <li>Can be used on their own or in combination with other cooling appliances.</li> <li>Can assist with moving cool natural breezes through your home.</li> <li>Reversible ceiling fans can also help with winter heating.</li> </ul>
Portable evaporative 	2¢ energy 1¢ water (12m <sup>2</sup> room)  3¢ energy 1¢ water (20m <sup>2</sup> room)	Rooms up to 20m <sup>2</sup>	<ul style="list-style-type: none"> <li>Needs good air flow to operate effectively, so place near an open window or door.</li> </ul>
Portable refrigerative 	33¢ (12m <sup>2</sup> room)  42¢ (20m <sup>2</sup> room)	Rooms up to 20m <sup>2</sup>	<ul style="list-style-type: none"> <li>Not as energy efficient as split systems but more effective in well-insulated homes.</li> <li>Includes indoor and outdoor components connected by a hose passed through a partially open window.</li> <li>Setting the thermostat to 24-27°C, or as high as is comfortable for you, will reduce running costs.</li> <li>Direct louvres at the ceiling, as cold air falls.</li> </ul>
Window and split refrigerative systems 	12-17¢ <sup>C</sup> (12m <sup>2</sup> room)  42-50¢ <sup>C</sup> (36m <sup>2</sup> room)  58-69¢ <sup>C</sup> (50m <sup>2</sup> room)	Window systems, rooms up to 36m <sup>2</sup>  Split systems rooms up to 75m <sup>2</sup>	<ul style="list-style-type: none"> <li>Work best in well-insulated and draught-proofed homes.</li> <li>The outdoor compressor should be in a well ventilated and preferably shaded area.</li> <li>Setting the thermostat to 24-27°C, or as high as is comfortable for you, will reduce running costs.</li> <li>Direct louvres at the ceiling, as cold air falls.</li> </ul>
Ducted evaporative systems 	45¢ energy 8¢ water	Whole of house <sup>D</sup>	<ul style="list-style-type: none"> <li>Effective in South Australia's dry climate. Can also be used as a large fan.</li> <li>Systems need good air flow to operate effectively, opening some windows or doors will help.</li> </ul>
Ducted refrigerative systems 	\$2.26-\$2.97 <sup>C,E</sup>	Whole of house <sup>D</sup>	<ul style="list-style-type: none"> <li>Work best in well-insulated and draught-proofed homes and with good quality ductwork.</li> <li>The outdoor compressor should be in a well ventilated and preferably shaded area.</li> <li>Systems with zoning can reduce the size of the area being cooled, using less energy.</li> <li>Setting the thermostat to 24-27°C, or as high as is comfortable for you, will reduce running costs.</li> </ul>

**A.** Estimated running costs are based on 30¢ per kWh for electricity unless otherwise stated and water costs are based on \$3.23 per kL. **B.** Estimated running costs for refrigerative air conditioners are based on 125 watts of cooling per square metre. **C.** Where a range is shown the lower cost is for newer efficient coolers and the higher cost will be for older less efficient coolers. **D.** Whole of house based on a 200m<sup>2</sup> home with 140m<sup>2</sup> cooled (this excludes bathrooms and garages etc). **E.** Due to the larger consumption of refrigerative ducted systems, running costs are based on 36¢ per kWh for electricity.

## Energy use and costs

Some refrigerative air conditioners will have an energy rating label like the one shown below. You can use this to compare the energy use and efficiency of similar sized appliances. The more stars the better.

While some cooling appliances may be cheaper to buy and run on an hourly basis, the cooling they can provide and the area they can cool may be limited.



For example, a portable refrigerative unit may not be adequate to cool a large room, while an evaporative ducted system may cool a whole home and only cost slightly more an hour to run.

Knowing how much your appliance costs to run will help you keep track of your energy costs. The table in this guide provides estimated hourly running costs or you can calculate running costs for your appliance at [sa.gov.au/energy/runningcosts](http://sa.gov.au/energy/runningcosts)

## Telecross REDi assistance during extreme heat

Telecross REDi is a free Australian Red Cross service that provides support to older people, those living alone and other vulnerable people (eg people with a disability or are housebound) during extreme heat events.

Trained volunteers call registered people during an extreme heat event to check on their safety and wellbeing. Volunteers also provide advice on how to stay healthy during an extreme heat event.

If a call goes unanswered an emergency procedure is activated to check that the person is safe.

To register for the Telecross REDi service, please call 1800 188 071 or email [telecrossredi@redcross.org.au](mailto:telecrossredi@redcross.org.au). Please note that new clients cannot be registered during an extreme heat event.

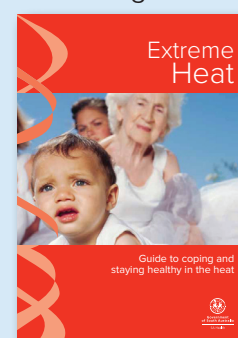
## Keeping safe during extreme heat

During extreme heat it is easy to become dehydrated or your body to overheat. This is especially important for infants and older people.

SA Health's Extreme Heat guide provides a range of information about staying healthy in extreme heat including:

- Information on heat related conditions and what to do if you have any symptoms
- Practical tips on preparing for and coping during extreme heat
- Emergency treatment for people affected by the heat while waiting for an ambulance
- Helpful tips for recovering from the heat.

The guide is available online at [sahealth.sa.gov.au](http://sahealth.sa.gov.au) or copies can be obtained from local libraries, medical services, community centres or by calling 8226 7115.



If you are affected by heat-related illness and need medical advice contact healthdirect on 1800 022 222 or your local GP or hospital emergency department.

## Keeping cool when the power goes out

When preparing for days of extreme heat consider how you can keep cool if there is a power outage. Some ways include:

- Visit an air conditioned public place that still has power, eg a shopping centre or library
- Fill a bath or bowls with cold water in advance or use a wet face washer or towel to cool down
- Keep curtains and blinds drawn
- Stay out of the sun and limit exercise
- Wear cool, light coloured clothing
- Fill bottles or jugs of drinking water and keep in a cool dark place
- If the power is off at night, and it is cooler outside, open windows or doors to let the cool air through. If possible, use window locks or lockable screen doors to keep your home secure.

*Courtesy of SA Health*

The **Energy Advisory Service** offers free independent home energy saving advice

**Online** [sa.gov.au/energy](http://sa.gov.au/energy)

**Email** [dmitre.energy@sa.gov.au](mailto:dmitre.energy@sa.gov.au)

**Phone** 8204 1888 or 1800 671 907\*

\*Freecall™ from fixed lines only



**Government of South Australia**