be energy smart

Summer cooling guide 2015-16

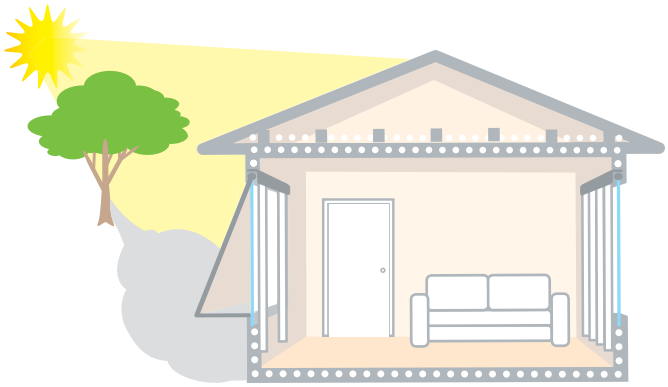
How to stay cool and comfortable in your home this summer

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

Shading and insulation

Shading the north and west sides of your home, e.g. using adjustable external blinds, deciduous trees, or simply closing curtains and blinds, will keep your home cooler in summer, without blocking out warming winter sun.

Installing insulation in your ceiling and walls can significantly reduce the amount of heat transferred into your home. Be aware that if you insulate without shading, your home can get very hot and insulation will keep this heat inside, so always shade if you insulate.



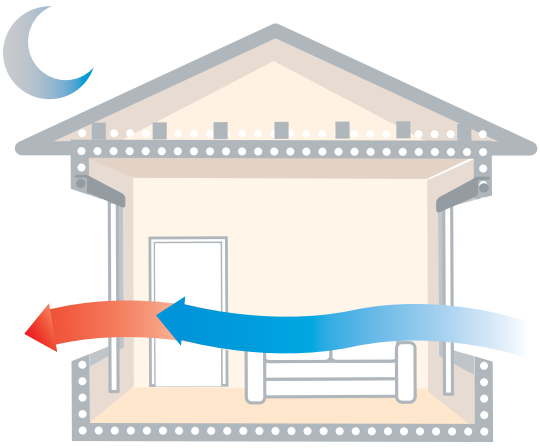
Leafy trees and external blinds can help prevent summer sun from shining directly through your windows and heating up your home.

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.

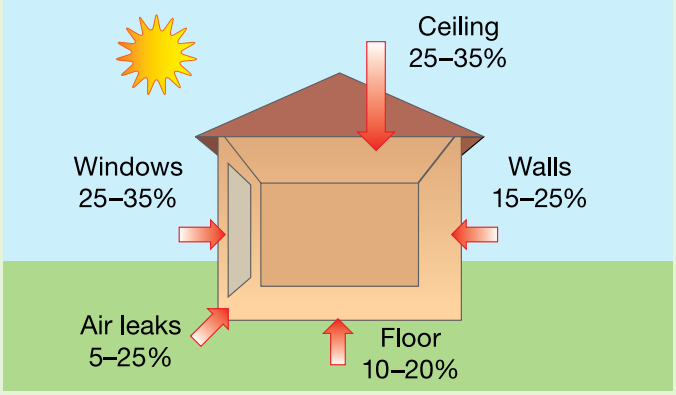
Whichever cooling appliance you're using, if it is cooler outside, e.g. at night, you can save energy by turning your system off and opening windows and doors to allow cool breezes into your home. If possible, use window locks or lockable screen doors to keep your home secure.



Cross ventilation is an effective way to cool your home.

More about shading and insulation

This diagram shows where heat is gained in a typical uninsulated home. The vast majority of heat is gained through your ceiling, walls and windows.



Typical heat gain in summer of an uninsulated home. source: yourhome.gov.au

Insulation and shading windows are effective ways of limiting 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.

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 from a licensed insulation installer about the best R-value for your home and needs.

Visit sa.gov.au/energy for more information.

Cooling options

When choosing a cooling appliance, remember to take care of your health and the health of those around you. The frail or elderly, the young and those with ongoing health conditions are most vulnerable to heat.

Fans

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

While they do not cool the air, they create air movement that helps to carry heat away from you and can help you feel cooler.

Fans 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.

Whole-of-house ducted systems or portable systems are available. Ducted systems should be appropriately sized for your home.

To work effectively, evaporative coolers need good ventilation (open windows or doors) so the cooled air can push the warm internal air outside.

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, and windows and doors must be closed for them to work effectively. 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.

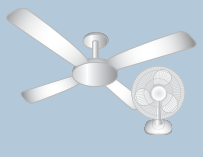
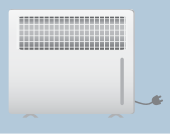
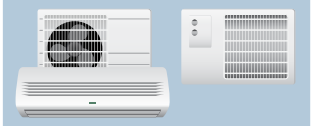
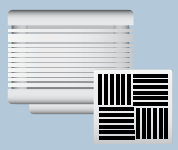
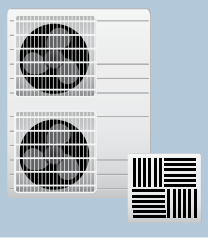
The larger the area you cool, the more energy you will use and the higher your running costs will be. Dividing your home into sections or zones by closing doors or using the zoning control on a whole-of-house system allows you to only cool the areas you're using and can reduce your cooling costs.

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 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 0.6 for the fittings.

Cooling appliance indicative running costs and operating tips

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

Cooling appliance	Hourly running costs[A,B]	Works best in	Operating tips
Ceiling and portable fans 	2–3¢ depending on size	Models available for all room sizes and spaces	• Can be used on their own or in combination with other cooling appliances. • Can assist with moving cool natural breezes through your home. • Reversible ceiling fans can also help with winter heating.
Portable evaporative 	2–3¢ energy 1.34¢ water	Rooms up to 20m^2	• Needs good air flow to operate effectively, so place near an open window or door.
Portable refrigerative 	36–46¢	Rooms up to 20m^2	• Not as energy efficient as split systems but more effective in well-insulated homes. • Includes indoor and outdoor components connected by a hose passed through a partially open window. • Setting the thermostat to 24–27°C, or as high as is comfortable for you, will reduce running costs. • Direct louvres at the ceiling, as cold air falls.
Window and split refrigerative systems 	11–16¢[C] (12m^2 room) 38–54¢[C] (36m^2 room) 53–75¢[C] (50m^2 room)	Window systems – rooms up to 36m^2 Split systems – rooms up to 75m^2	• Work best in well-insulated and draught-proofed homes. • The outdoor compressor should be in a well ventilated and preferably shaded area. • Setting the thermostat to 24–27°C, or as high as is comfortable for you, will reduce running costs. • Direct louvres at the ceiling, as cold air falls.
Ducted evaporative systems 	36–49¢ energy 8.4¢ water	Whole-of-house (200m^2 home with 125m^2 cooled[D])	• Effective in South Australia's dry climate. Can also be used as a large fan. • Systems need good air flow to operate effectively; opening some windows or doors will help.
Ducted refrigerative systems 	$2.26–$2.67[C]	Whole-of-house (200m^2 home with 125m^2 cooled[D])	• Work best in well-insulated and draught-proofed homes and with good quality ductwork. • The outdoor compressor should be in a well ventilated and preferably shaded area. • Systems with zoning can reduce the size of the area being cooled, using less energy. • Setting the thermostat to 24–27°C, or as high as is comfortable for you, will reduce running costs.

A. Estimated running costs are based on 32.8¢ per kWh (inc GST) for electricity and water costs are based on $3.36 per kL (inc GST).
B. Estimated running costs for refrigerative air conditioners are based on 125 watts of cooling per square metre.
C. The lower cost is for newer efficient coolers and the higher cost will be for older (e.g. more than 10 years old) less efficient coolers.
D. Cooled area excludes bathrooms and garages.

Buying a new air conditioner

Some refrigerative air conditioners will have an energy rating label like the one shown below. Use the labels when buying a new air conditioner to compare the energy use and efficiency of similar sized appliances. The more stars the better. Visit energyrating.gov.au to compare new refrigerative air conditioners.

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.

Telecross REDi assistance during extreme heat

Telecross REDi is a free Australian Red Cross service that supports people who live alone, have a disability or chronic illness, are recovering from an illness or accident, experiencing mental illness, or are housebound, frail, or aged, by regularly calling them during heatwaves.

During extreme heat events, trained volunteers call pre-registered clients up to three times a day to check on their safety and wellbeing. Volunteers also provide advice on how to stay healthy during the extreme weather.

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

To register for the Telecross REDi service:

- call 1800 188 071
- email telecrossredi@redcross.org.au

Please note that new clients cannot be registered during an extreme heat event.

Keeping safe in the heat

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

SA Health's Extreme Heat guide provides a range of information including:

- heat related conditions and what to do if you have any symptoms
- practical tips for preparing for, coping during and recovering from extreme heat
- emergency treatment for people affected by the heat while waiting for an ambulance.

Copies are available at local libraries, medical services, community centres, by calling 8226 7115 or online at sahealth.sa.gov.au

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.

Staying cool when the power's out

When preparing for days of extreme heat, think about how you'll keep cool if there is a power outage. Some ideas include:

- Visit an air conditioned public place that still has power, e.g. 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 with drinking water and keep them in a cool dark place.
- At night, if 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
Email energyadvice@sa.gov.au
Phone 8204 1888 or 1800 671 907* *free call from fixed lines only

Government of South Australia