

live

**Energy  
Smart!**

# The first steps to summer cooling

*Staying cool this summer need not be a costly exercise requiring expensive air-conditioning equipment. By paying close attention to all of the aspects described in this brochure you can significantly reduce heat entering your home and help keep it comfortably cool without the need for air-conditioning. If you already have an air-conditioner, you can reduce its operating hours, saving energy and money. Saving energy leads to a cleaner environment. It results in reduced pollution and greenhouse gases, both at the power station and at home.*

## Insulate your home

Around 30%-40% of the heat entering your home comes through the ceiling. Installing ceiling insulation is the single most significant thing you can do to reduce this heat gain. Wall insulation is also recommended for Perth, although this can be difficult to retrofit and care needs to be taken to ensure that the insulation does not form a moisture bridge, allowing moisture from the outer wall to be transmitted to the interior.

## Shade your windows

Windows are the second largest source of heat gain in most homes and should be given as much attention as insulation. Whilst internal coverings such as tight fitting curtains with pelmets offer some protection from the summer sun, external shading is the best way to reduce heat gain from windows.

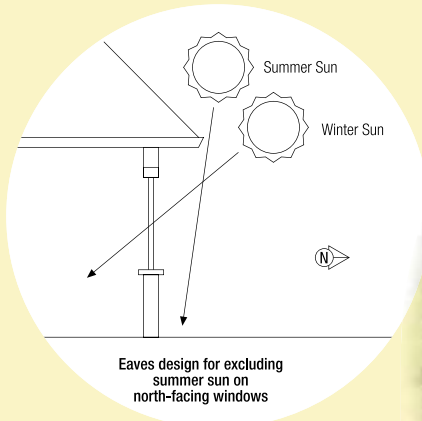
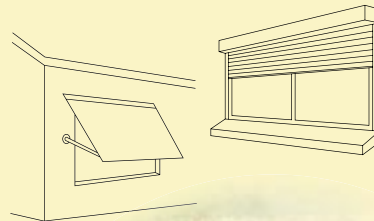
### North-facing windows

Fixed horizontal shading devices such as eaves and pergolas are recommended for shading north-facing windows. Properly designed, they will block the high summer sun, while still allowing the low level winter sun to shine in. The Sustainable Energy Development Office's Energy Smart Line can help you calculate the correct overhang width for your eaves (see back page for contact details).

Adjustable vertical shading, such as bamboo blinds, awnings, roller or conventional shutters, are also suitable for shading north-facing windows.

### East and west-facing windows

If not shaded, these windows can cause severe overheating in summer. External vertical shading devices (bamboo or shade cloth blinds, awnings or shutters) are recommended. Eaves, pergolas and even verandahs have limited effect as they do not block out the lower angle morning and afternoon sun.



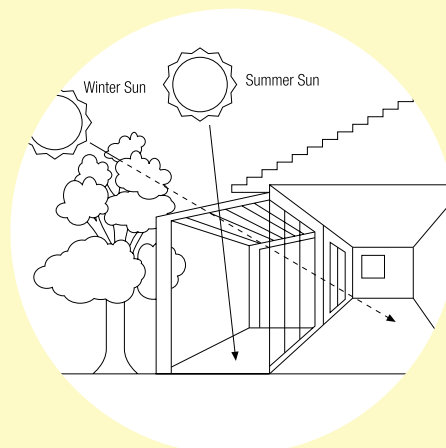
## Landscaping

Uninsulated walls can also transmit large amounts of heat. Careful selection and positioning of plants can provide summer shading, act as a buffer against hot winds, and maximise the effect of cool changes.

Tall, deciduous canopy trees can provide shade to north-facing windows and walls, while still allowing winter sun through. Smaller shrubs are useful for shading east and west-facing windows and walls.

Low shrubs, lawn or even a swimming pool to the north or east will help cool hot summer winds. Avoid unshaded paving in front of north windows - use ground covers to reduce the effect of reflected heat.

Planting deciduous creepers over a north facing pergola will provide shade for windows and walls, as well as a pleasant outdoor entertainment area.



### Skylights and roof glass

These may allow substantial amounts of heat to enter your home over summer. The use of external shading, such as roller blinds or adjustable louvres, can help reduce the problem of heat gain. As skylights and roof glass can be difficult and costly to protect from the summer sun, external shading should be integrated during installation.

### Reflective films and tinted glass

These products reflect and absorb heat, keeping your home cooler. However, be aware that using them reduces the amount of light and heat entering rooms in winter as well as summer. They may be useful where large areas of east and west glazing are unavoidable due to design reasons and can also be used on skylights. However, tints and films will generally not reduce heat gain as much as external shading.

### Double glazing

Two panes of glass separated by at least 10 mm can reduce conductive summer heat gains. However, when exposed to sun it will still allow significant heat transfer. Full shading is still required. Double glazing is not a priority method for overall summer cooling.

## Sealing up your home

Up to 10% of a home's heat gain comes through gaps and cracks. To overcome this, ensure draught-proofing is installed around all external doors and windows, and all other gaps to the outside are sealed.

#### Acknowledgments

Various publications, Sustainable Energy Authority Victoria.  
The Wise House, T Jenkins & J James.  
The Natural House Book, D Pearson.

### More Information

If you want to know more about designing an energy efficient home, installing insulation, choosing energy efficient appliances, or any other matters relating to home energy use, simply phone the **Sustainable Energy Development Office's Energy Smart Line on 1300 658 158** or visit the Sustainable Energy Development Office's web site at **[www.sedo.energy.wa.gov.au](http://www.sedo.energy.wa.gov.au)**

## Natural ventilation

Open up doors and windows once it is cooler outside than inside. At night, open windows to catch cool night breezes and allow the house to cool down.

Consider installing screens if security is a concern.

Running exhaust fans can help speed up the cooling process, especially on still nights, or if your windows do not face the prevailing cool breezes.

Remember, only use these tips when it is cooler outside your home than within.

## Use fans

Moving air has a cooling effect on your body. Ceiling mounted or portable electric fans provide direct cooling with very low running costs.

## Keep your cool

- On days that are going to be hot, close all windows, curtains and blinds to keep out the heat. Close off doors to unused rooms and these can act as a buffer zone to keep living areas cooler.
- Wearing lightweight clothing allows air to pass across your skin, helping you feel cooler.
- Avoid activity during the hottest part of the day. Start your day early and take a siesta during the hot afternoon!
- Heat-generating appliances and excessive humidity add to the discomfort felt on hot days. Try putting off jobs that produce heat or steam, such as cooking, washing or ironing, until cooler times of the day.
- Plan "no cooking" days and serve cold meals or cook outside on a BBQ or in a solar cooker. Eat dinner on the porch or in an area that has cooling breezes.

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