



SEASONAL ACTIONS

Take extra actions in summer:

- Early on hot days, close windows, doors, curtains and pull down exterior blinds to **block out the summer heat**.
- When the temperature is cooler outside than inside open all windows to **capture cooling breezes**.
- Use a fan – it will cool you a few degrees, and cost 95% less than running an air-conditioner.
- Minimise your air-conditioner use and set it to 24°-27° degrees (every extra degree of cooling adds 10% to the cost).

Take extra actions in winter:

- Open blinds and curtains during the day to **let the free heat of the sun in**.
- Use an electric blanket or hot water bottle, to warm your bed before you go to sleep. This will save the use of a room heater.
- Use reversible ceiling fans and set heaters to 18°-21° degrees (saving 10% in heating for every degree).

Gain more savings by:

- **Sealing the gaps around windows and doors** (a draught stopper for under doors, sealant around window frames and plastic/ foam weather strip inside door frames).
- Closing internal doors so that you **heat/ cool only the rooms that you are going to use**.
- **Dressing for the season** (warmer clothes in winter and light clothes in summer).
- When buying heaters or coolers **look for the right size and the most energy efficient model** (see www.energyrating.gov.au or compare star rating stickers).
- Replacing paving with a waterwise garden bed (paving located in the wrong place can create a heat trap that transfers or reflects heat into the house).

During 2010/11, Living Smart will be offered to around 10,000 households in Perth's eastern region as part of the Perth Solar City program. For more information on this Australian Government initiative, please call 1300 993 268 or visit perthsolarcity.com.au. The Living Smart Ambassadors are Tanya Ha (expert in environmental living and the author of *Greeniology* and *Green Stuff for Kids*) and Josh Byrne (sustainability specialist, presenter on ABC TV's *Gardening Australia* program and author of *The Green Gardener*). The information in this brochure is provided in good faith. However the accuracy or appropriateness of the information is not guaranteed. The Living Smart brand has been developed by The Meeting Place Community Centre, the City of Fremantle, Murdoch University and Southern Metropolitan Regional Council to support a suite of programs developing capacity in community sustainability.

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Natural Heating and cooling for a comfortable home

Making small changes to your home can help get the most out of the natural energy from the sun to heat your home in the winter and the breeze to cool your home in summer. Be smart about the way you use heaters & air conditioners and you can have a more comfortable home and lower bills.

WHY?

A home that is set up for natural heating and cooling will be more comfortable and have lower bills. Energy use in a typical home costs the planet around 6,600 kilograms of greenhouse gas and the occupant \$1,500 in bills each year. Around a quarter of the energy used in most WA households is for heating and cooling.

Up to half of this energy is wasted, so switching to natural heating and cooling could cut these costs in half.

HOW DO I DO IT?

The smart solutions for a more comfortable home are:

- Shading windows so as to reduce summer heat but still gain winter warmth
- Insulating to keep comfortable temperatures for longer
- Reducing draughts and managing cooling breezes
- Using ceiling fans to move warm air in winter and create your own breezes in summer
- Adjusting heater and air conditioning settings

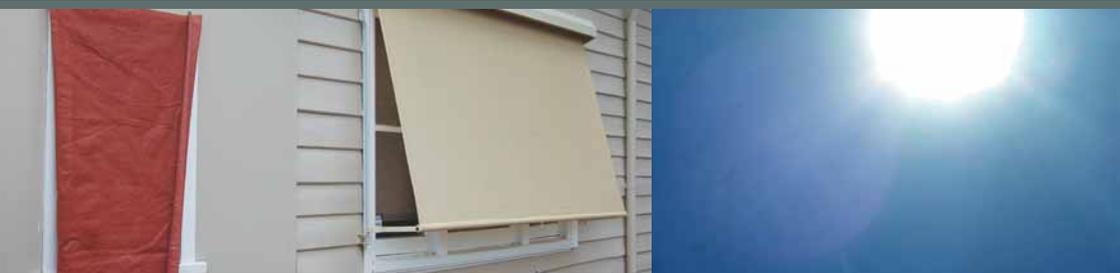
This guide shows you how to act on these smart solutions.



TANYA'S TIP:

Prevention is better than cure! It's far easier and cheaper to prevent heat from coming into your house in summer in the first place than trying to get rid of a build up of heat with an air conditioner.





JOSH SAYS:

Plant deciduous trees or vines near the house to provide shade in summer while allowing in warming winter sun during the cooler months.

SHADE YOUR WINDOWS FROM THE SUMMER SUN

WHY?

The effect of the sun on windows can be the equivalent to a one bar electric heater for every square meter of window. An unshaded window can make a room degrees hotter for several hours. This is good in the winter, but a big problem in the summer. Closing curtains or blinds inside the house will help, but external shading is more than twice as effective – don't let the summer heat in at all.

HOW DO I DO IT?

Shading windows to the east or west

Windows to the east or west are often the biggest problem because the morning and evening sun is low and cannot be blocked out by the eaves of the house. Shading for east or west windows needs to be low over the window and removable in the winter (to let the heat in). Some shading options are:

- Install an awning blind – available from major hardware stores for between \$100 and \$400 (for DIY installation). These are lifted easily and cut out about 70% of the heat.
- Roller shutters can be professionally installed for between \$600 and \$900, providing insulation, noise control as well as shading – see 'Window Roller Shutters' in the Yellow Pages.
- Apply window tinting – this will cost around \$200 per square meter of window and will cut the heat by 50%. But also reduces the natural light all year round.
- Grow a small tree, large shrub or a pergola with a vine outside the window. Deciduous varieties drop their leaves and let winter sun in. Planting can cut 60% of the summer heat from a window.
- Simply hanging shade cloth from the outside of the window frame or eaves is an effective and low cost solution.

Shade your east and west windows to counter summer heat gain and each year:



Shading windows to the north

Most houses have eaves to shade windows to the north from the high summer sun. The lower winter sun can come in under the eaves to warm the house. For north windows:

- Add fixed awnings where there are no eaves. Solar-passive homes often have solar pergolas to shade windows and outdoor areas to the north. These pergolas have angled slats to let in the winter sun.

ROOF INSULATION

WHY?

Most heat is lost or gained through the ceiling and roof of your home. By installing or upgrading insulation you can improve the comfort of your house. You can reduce your heating/ cooling costs and your unwanted heat loss/gain by up to 30% and save around \$130 a year on energy bills.

HOW DO I DO IT?

The main types of insulation are:

- Bulk insulation that traps small air pockets, slowing the rate of heat transfer.
- Reflective insulation that bounces heat preventing it from entering or leaving your home.

Some of the most important things to consider before buying your insulation are:

- The R-value measures the products resistance to heat flow - the higher the R-value the better the insulation.
- The environmental benefits of different products. Some polyester insulation contains recycled PET

(the plastic commonly used in drink bottles). Some cellulose fiber contains recycled paper. Glass fibre insulation contains recycled glass.

- Before you insulate, it's very important to fix other sources of heat gain and loss from your home by shading windows from the summer sun and blocking draughts around windows and doors. Insulating a home with sources of unwanted heat can create an "oven" effect and increase cooling costs.

Where can I find an insulation supplier?

A list of insulation suppliers is available by using the Yellow Pages or see:

www.yellowpages.com.au

What are the costs and rebates?

The cost of fully installed ceiling insulation, in a typical 150 square metre home, is around \$1,200. A federal rebate of up to \$1,000 is available for professional installation of ceiling insulation in uninsulated homes. The Renewable Energy Bonus Scheme for home insulation will commence from 1 June 2010. Householders will be able to claim the rebate directly through Medicare. Information on the rebate and registered installers is available at www.environment.gov.au/eehp/ or by calling 1800 808 571.

Insulate your roof, and each year:

