

Cooling Options For The Home



Did you know that up to 35% of summer heat enters through unprotected windows? When the sun directly hits the glass it has the effect of a 1 bar heater for every square meter it shines on, so a lot of heat can be stopped easily with shade! The use of passive design principles such as shading, insulation and ventilation can significantly reduce, if not completely remove, the need for active cooling systems.

Types of cooling

There are many options available and the right one for you will depend on requirements, location, budget and your home. The key types are noted below.

Passive cooling – this is where no active energy (e.g. gas or electricity) is required for cooling the home. It is achieved through design that provides for shading, ventilation and insulation to keep the building cool.

Shading is a very effective method and can be provided by a range of options including shade blinds, sails, eaves, pergolas or deciduous trees. For maximum benefit ensure the shading is removable during the winter months to take advantage of the sun. Shading can make a significant difference to internal temperatures.

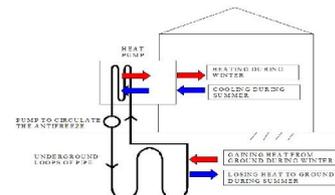


Opening windows and vents that are high in the home will let out the hot air as it rises and help keep it cool. Heavy curtains and pelmets will also help to stop heat from entering the house.

Fans are an excellent option when the need arises for additional cooling. The moving air has a cooling effect on the skin and helps to make it feel cooler. Fans are very cheap to run and have the least environmental impact. There is a wide range of ceiling and portable fans available. Fans should be the first choice when mechanical cooling is required.



Geothermal cooling is growing in popularity. It's basically a heat pump system and works by taking heat out of the air and transferring it into the ground in winter. It can also operate in reverse in the winter months to heat the home.



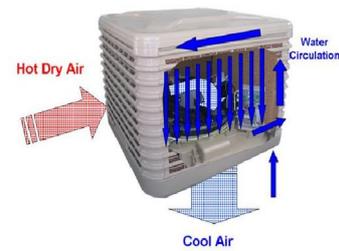
Evaporative coolers work best in low humidity and are significantly less effective in climates with high humidity. They work by a fan blowing air over a water filter which produces cool humid air. You must have some doors and windows open a little to allow the hot air to escape from the house.

Operating costs for evaporative coolers can be quite low as it only uses a fan and water. Be sure to have the unit serviced regularly to ensure it operates at its most efficient.

Portable evaporative units will need to be topped up with water regularly when in use.

Refrigerated air-conditioners consume more energy and create the most greenhouse gasses than other cooling methods. However they can provide comfort in most climates.

For efficient cooling the house or room should be sealed and well insulated. Doors and windows should be closed and windows should be shaded. There is a wide variety of efficiency levels in refrigerated air-conditioning, always choose the most energy efficient model you can.



General Rules

Use shading as much as you can in summer, then fans. This is the cheapest way to keep cool.

If you are installing a new cooling system

- Choose the right cooler, in dryer climates evaporative coolers are more appropriate and energy efficient than refrigerated and be sure to have it zoned.
- Be sure to size the system correctly and choose a model with timers built in
- Place the unit in a position that can be shaded in summer, this will help the unit operate much more efficiently
- Always go for the most energy efficient model you can. Information on energy ratings of appliances can be found at www.energyrating.gov.au

The most economical way to cool your home is to use shading and fans. If you need to use active cooling, zoned, high efficiency (5* + rated) evaporative coolers are the most cost effective to run.

The most economical space coolers are the portable evaporative coolers.

Top tip.....

Remember to use fans in conjunction with air-conditioners, it gives a better cooling effect and your cooler doesn't have to work so hard. For every 1 degree Celsius less that the system has to cool, you can save up to 10% on running costs.

For any queries or additional information on this tip sheet please contact Green Moves Australia on (03) 9024 5515 or 1300 898 742

www.greenmoves.com.au
© Green Moves Aust (2011)

