

# FAMILY ENERGY EFFICIENCY COOLING DOWN

Energy efficiency is using energy wisely and economically to sustain everyday life, live comfortably and support well-being.



**SAVE MONEY | SAVE THE PLANET | LIVE WELL | FEEL GOOD**



**MACQUARIE**  
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LIGHT THE WAY

**Changing the air temperature takes a lot of energy, but there's no better feeling than cold air on a hot day. Here are some tips to help find a balance that works for you.**



## FANS

Fans should be the first choice for mechanical cooling. They are the cheapest cooling option to run and have the lowest greenhouse impact.

Evaporation of sweat is the most effective bodily cooling process. Air circulating next to your skin will help evaporate sweat and this will make you feel cooler. Typically, the air flow created by a fan provides a similar improvement to comfort as reducing the air temperature by around 3°C. Direct the flow of air to your face. It's more effective because the face has so many receptors on it.

If the outside temperature is lower than the temperature in your home then the fan will be much more effective placed next to an open window, as this will draw cool air from outdoors.

Using fans in combination with an air conditioner means you can set the air conditioner to a higher temperature in summer (add at least 3°C) and still feel the same. The combined energy cost will be far less than running an air conditioner alone.

## AIR CONDITIONERS

Air conditioning can give greater control of comfort in any climate, however an Air Conditioner will typically consume 10 times more energy than a fan.

For efficient air conditioning, the house or room should be well sealed and well insulated. Windows should also be shaded from the summer sun.

Avoid leaving the air conditioner running when no-one is home. It is cheaper to cool the house down when you arrive home.

## WHAT TEMPERATURE SHOULD I SET MY AIR CONDITIONER?

Bodies acclimatise to the heat so the main aim is just to take the edge off. Cooling to 26°C should keep your home comfortable and save you money as setting your thermostat just 1°C cooler can increase your cooling bill by 15%. Setting the thermostat at a temperature lower than you need will not make the unit cool any faster.

## BUYING THE RIGHT AIR CONDITIONER

You can use the Australian Institute of Refrigeration, Air Conditioning and Heating's online tool to help you choose the right system for your specific room characteristics. [www.fairair.com.au](http://www.fairair.com.au).

Once you know the size of system you need you can compare the star ratings to get the most efficient model you can afford. Fixed systems need to be installed by a licensed refrigeration mechanic/ electrician.

## REPLACING AN OLD AIR CONDITIONER

Consider how often you use it for cooling before buying a new one. If you rarely use your old unit then it doesn't make sense to buy a new one. If it is old but you use it a lot, then you may be better off buying a modern and more efficient air conditioner. You could also buy a reverse cycle air conditioner, as these are actually a very efficient way to heat the home in winter.

## AIR LEAKAGE

Sealing your home against air leakage is one of the simplest upgrades you can undertake to increase your comfort while reducing your energy bills by up to 25%. Air leaks can contribute to significant unwanted summer heat gain and are particularly important to seal up if an air conditioner is used.

Air typically leaks through:

- unsealed or poorly sealed doors and windows
- unsealed vents, skylights and exhaust fans
- gaps in or around ceiling penetrations (e.g. downlights, pipes and cables)
- gaps around wall penetrations (e.g. pipes, conduits, power outlets, switches, air conditioners and heaters)
- poorly fitted or shrunken floorboards.

Close off any draughts to keep cooler air in your house by applying weather stripping, foam sealant or silicone caulking around windows, doors, and the dog or cat flap.

A good principle is to have a well-sealed home to keep out hot air during times of high outside temperatures. But then open up doors and windows to provide maximum natural ventilation when outside air is cooler than inside your home.

**When it comes to keeping the heat out of your home in summer there are a lot of simple things that you can do to stay comfortable without paying for energy.**



## **SHADING & WINDOW COVERINGS**

Unprotected glass is often the greatest source of heat entering a home. Radiant heat from the sun passes through windows and is absorbed by walls, floors and furnishings, which then heat up the room.

External window shading can block up to 90% of this unwanted heat gain. A variety of fixed or adjustable shutters or awnings can help. White backed curtains or blinds will also help reflect much of the unwanted solar heat back out through the windows during the heat of the day. Thicker curtains and hollow core "honeycomb" blinds also act as effective insulation barriers to windows to slow down heat being conducted from the hot air outside.

## **COOL OUTSIDE AIR**

If your room is warmer than outside, opening the windows will help cool down your home. The coolest part of the day is usually between 4am and 7am. Cool breezes tend to occur in the late afternoon or early evening when cooling requirements usually peak. Coastal breezes

are usually from an onshore direction (south-east and east to north-east in most east coast areas). Please also consider home safety and security when it comes to leaving windows and doors open.

## **ACCLIMATISATION**

Your body naturally adjusts to the temperature of your environment. Acclimatisation occurs over a period of about two weeks in healthy people and the process is faster in response to heat.

## **APPROPRIATE CLOTHING**

Natural fabrics like linen and cotton absorb sweat and allow air circulation to your skin. They're much better than man-made fibres like polyester, which can leave you hot and uncomfortable.

## **RESTING DURING THE HOTTEST TIMES OF THE DAY**

Try to schedule outdoor activities such as gardening or trips to outdoor shops and markets for earlier or later in the day, and avoid physical exertion during the hottest part of the day between 11am – 4pm.