

## PASSIVE SOLAR DESIGN: Five key ingredients for a cool house this summer

# Cooler commonsense tips



■ **Andrew Ferguson**, architect

AFTER several record-breaking months of heat, it's easy to forget that summer has only officially started this week.

Local architect and member of Coffs Coast Climate Action Group Andrew Ferguson has a few commonsense tips to help keep your house comfortable this summer and reduce your electricity bill.

There are five basic passive solar design tips that can help you get through summer using little or no air-conditioning. These can be applied in varying degrees to existing houses or new builds.

● **Natural Ventilation:** To optimise cooling through natural ventilation, open up your house as much as possible whenever it is cooler outside than inside, and close it up as airtight as possible when it is not.

Anyone familiar with the Coffs Coast knows the relief of the north-easterly on a summer afternoon. For

houses near the coast, allowing the sea breeze in is the most effective way to remove heat from internal spaces. As well as opening doors and windows that face the wind, also open them wide on the downwind (south and west) sides – this will create low pressure zones that suck wind through the house.

Note: Relying on the sea breeze is less effective further inland, so instead take advantage of cooler night air. Install security screens to allow windows to be left open overnight. Fans are a low-cost and low-energy way of assisting cool air to spread through your house.

● **Shading:** Shading can be designed to keep the sun out in summer while allowing the sun in during winter. It is better to stop the sun on the outside before it enters a window, using eaves overhangs, pergolas, shutters, vegetation or other means. Insulating blinds and heavy curtains are useful in providing additional solar exclusion.

● **Insulation:** Most of the heat entering your house in summer will enter through the roof. Ideally, your roof should have reflective insulation beneath the roof sheeting or tiles, and bulk insulation (batts) above the ceiling. Most houses in Coffs have framed walls, and these should also have reflective and bulk insulation.

Insulating framed floors will also help to increase comfort.

● **Orientation:** If you're considering building or moving into an existing house, choose one with good orientation. The long side of the house should face north, with the east- and west-facing sides being as short as possible. This will reduce

exposure to morning and afternoon summer sun.

● **Thermal Mass:** Having a concrete slab and masonry or stone walls will "smooth out the peaks" in your internal temperatures.

Coffs Coast Climate Action Group will have a stall at the Harbourside Markets, Jetty Foreshore on Sunday, December 7, from 8am–2pm.

