

New Homes Liftout

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Passive-solar design is a winner



THERE was 20cm of snow on Bluff Knoll in the Stirling Ranges and the freezing weather also swept up through much of the Great Southern. Even Perth shivered in the bleak snap with winds that seemed to emanate direct from the Antarctic.

But it was still not reason enough to put on the heaters in a passive-solar designed house on the slopes of Greenmount. Over the whole of winter the owners have only ever turned on the heaters to dry clothes.

Indoors, it has always been comfortable with the minimum temperature between 18C and 20C, and never falling below 17C. During the recent cold snap the owners were still able to walk about indoors with just thongs on.

This winter comfort is the result of the sun penetrating well indoors by day, creating warmth to be soaked up by the clay brick walls and concrete floor. These act as a thermal bank and radiate the heat back into living spaces at night, contributing to significant savings in power bills.

It was all planned by architect Garry Baverstock after the initially sceptical owners asked for an energy-efficient design. Also it had to be done on a fairly tight budget.

Owners Henry and Maree Burdon had previously lived in Canberra and experienced its freezing winter weather. They wanted a more comfortable lifestyle for their new home here.

GREENMOUNT ON DISPLAY

- Price: on application
- Address: XXXXXXXXXXXXXXXXXXXX
- Agent: Garry Baverstock, architect
- Open: contact architect

They gave the architect their space requirements and asked for a granny flat to be integrated while maintaining the image of just one big residence.

The only external clue to the home being an efficient solar design is in it facing true north and its pergolas with angled louvres inserted in the corrugated roof. Not so obvious is the light reflective tonings to the external masonry walls and to the metal roof.

The house also exploits natural contours with a split-level floor. A retaining wall takes advantage of the constant temperature of the earth to provide a moderating effect on the indoor climate.

Provision of cross ventilation was an important consideration for summer comfort, hence the open areas between passageways and living areas to take advantage of cool

southerlies on a hot afternoon. A wide street elevation has allowed for the maximum northerly exposure of windows.

All this has been done while still making the most of a north-westerly outlook down a valley and over the coastal plain to the sea. The city lights make the view as interesting by night as by day.

"I'm happy with the total result, the spacious feeling indoors as well as the comfort, all on a moderate budget," said Mr Baverstock. "This is proof that passive solar benefits are affordable to many, and not just the rich."

"The owners were happy to give the passive solar concept a go and they have the discipline to operate the house correctly for year-round comfort. They are happy for others to see the home, by appointment with me."

The last of the cold-weather sunshine is still penetrating the living spaces of the Greenmount home. When summer arrives the sun will have risen higher in the sky and the

sunlight will not enter the house. A blind is pulled across a big skylight by day.

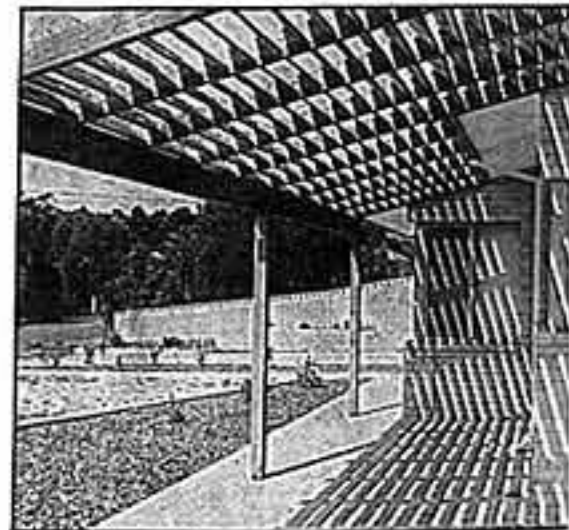
The 2000sq m site allowed a good measure of flexibility in siting the house. It is not parallel with the roadway but at an angle of about 20 degrees for true north.

The main entry is at the side with an elevated porch. From the hall there are six steps down to the main living level, where well-defined lounge and dining areas are easy to furnish.

The door to the family zone is only for noise control. The kitchen relates to the family areas and to an outdoor living area handled like an outdoor room with its solar pergola.

There are about 6m of bench, cupboards in the kitchen, plus a corner pantry, and the main work area relates to a corner window which has the best of the views. There is an under-bench oven and recesses take big freezer and fridge units.

Frank Platell



The pergolas also play their part in the passive solar design system.

RIGHT: There is little from the outside front appearance to give any clue to the passive solar heating design built into the house.



BELOW The roof louvres and high ceilings are all part of the solar heating design.



The front entrance is shaded from the direct sun.