

homes of the year

JUDGE'S VERDICT



The front veranda of this solar energy ideas home in Le Souef Drive, Kardinyo, keeps the early morning and late afternoon sun off the facade. More importantly, it keeps the ground cool in front of the bedroom windows.

BRISTILE GOES SOLAR

With increased interest in energy-saving ideas, the Bristile Solar Energy Ideas Home is proof that, with a little thought, passive solar energy concepts can be successfully integrated into conventional housing plans.

Situated at Lot 98, Le Souef Drive, Somerville, the Bristile Solar Energy Ideas Home was built with two main aims. Firstly, as a practical demonstration of simple passive solar energy ideas, and secondly, as a showcase for the range of Bristile products suitable for domestic housing.

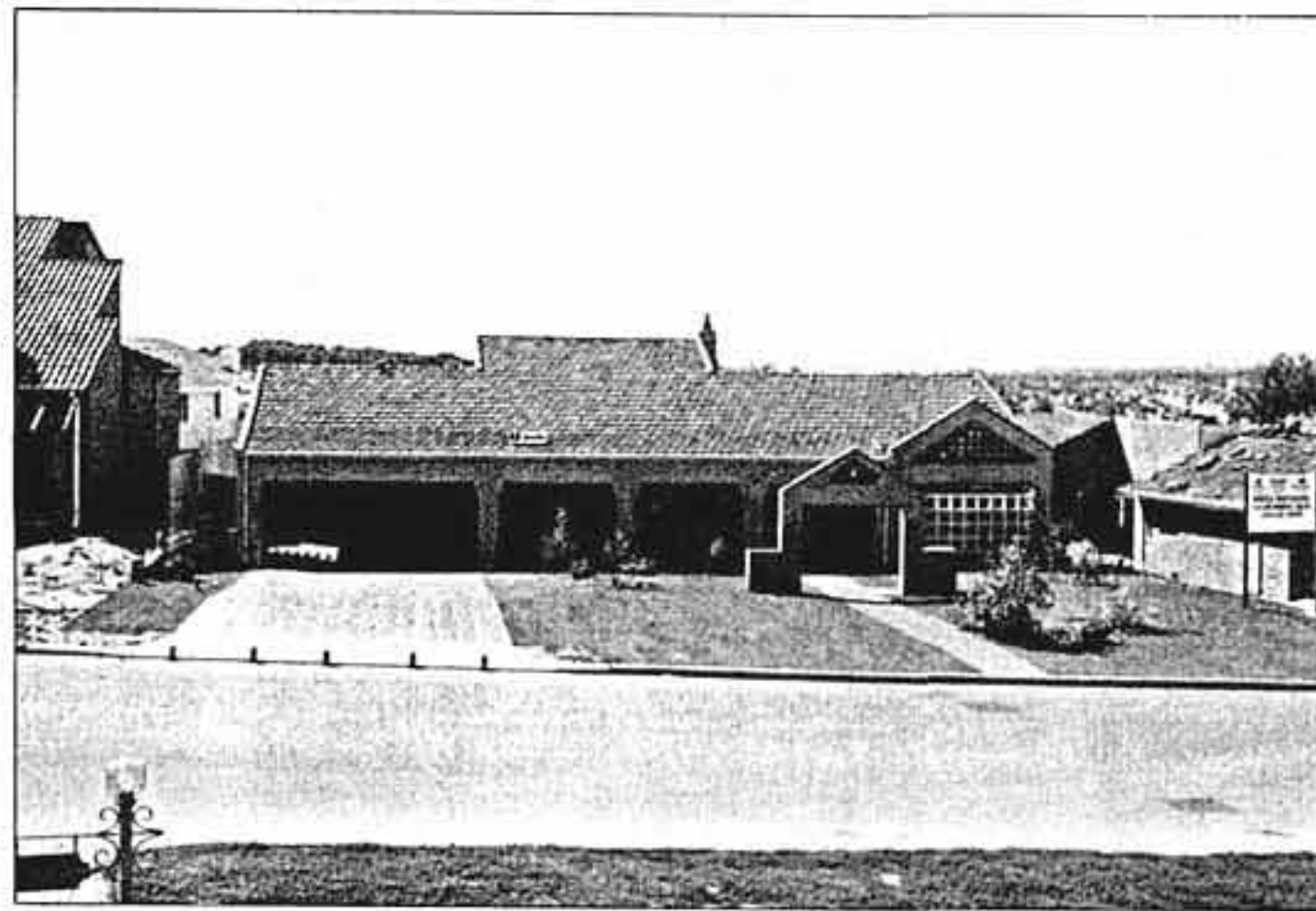
Detailed planning into every aspect of the home's construction and fitting has sought to maximise the benefits that may be gained from free, natural sunlight.

The block on which the display home stands faces north/south, which lends itself to easy planning of a passive solar home. The aim is to capture the widest aspect of the northern winter sun, so although more careful design is needed, a block facing east/west is not precluded from north/south comfort.

The Bristile solar home was designed to utilise the low trajectory of the winter sun and capture its warmth and light during the colder months. Ceilings in the home are higher than standard (2700mm), and skylights and large windows allow winter warmth to penetrate a large area of the house.

The placement of windows is critical. As few as possible face east and west, while most face north. The front windows are recessed to trap the southwest sea breeze, yet block out the harsh summer sun.

Effective insulation from outside heat is achieved by careful use of polystyrene sheets in the cavity walls and cellulose fibre pumped into the



ceiling. This aids resistance to heat penetration from the loft and brickwork.

Verandahs and pergolas add an aesthetic yet practical touch to the Bristile solar home. The front verandah acts as a shady retreat while acting as a buffer to extreme outside temperatures. The pergolas restrict direct sun in summer and particular attention was paid to the blade angles, in order to capture the warm winter sun from the north.

Important in the control of heat transfer through glass, is the choice of curtains and drapes. Appropriate appliances, such as water heating and cooking systems can do much to reduce energy costs. Consultation with professionals in both these areas has led to the particular choice of fittings in the home.

Bristile clay roofing tiles compli-

ment the outside clay brickwork and pavers from Metro Brick perfectly. A major feature of the home's interior design are the face brick walls in Metro Brick 'Old Tudor'.

The modern kitchen was designed and installed by Bristile Kitchens, integrating the power-efficient appliances recommended by specialists.

Whittakers were responsible for all timber joinery, doors and roofing timber cut from Western Australian jarrah.

Designed by architect Garry Baverstock, the home's performance is being monitored for one year by researchers from Murdoch University.

The Bristile Solar Energy Ideas Home is a major demonstration of the value and feasibility of passive solar energy. The home is open for public inspection from 12.30 to 5.00 p.m., Wednesday to Sunday. □

Clever with the climate



The head of the judging panel of the Design for Climate Category, Mr Peter Little, senior lecturer at the Department of Architecture, WA Institute of Technology, sums up the criteria used in selecting the Bristile-Whittakers home in Kardinyo as the winner.

IF I was asked to discriminate between a good and a bad house for our Perth climate I would say:

- A good house is one that is warm in winter and cool in summer, remaining between 18C and 26C all year round, and does not consume an inordinate amount of energy to maintain internal comfort conditions.

- A bad house is one that is cold in winter, like an oven in summer and the temperature would only be a little above or below the outside temperature. The house would most likely need expensive heating and cooling devices to maintain internal comfort conditions.

Consumers need to know the right climatic questions to ask their builder. The onus is then on the designer to understand and use specialist knowledge to make sure the house is cool in summer and warm in winter.

Onus on buyers

The onus is also on consumers to ask themselves when selecting a house: What opportunities do I gain by having a house that is climatically designed and what are the risks involved?

Climatic considerations may not be the dominant factor for all sectors of the housing market. However, the technical knowledge and practical experience now exists in the housing industry to provide the consumer with a new house suitable for our climate.

Consumers will not get climatically designed houses if they do not demand them.

Thirty per cent of the houses in this year's competition would qualify as "good" houses for our Perth climate. They were distinctive houses with easily recognizable climatic features and the consumer could feel quite confident that these houses will consistently perform well in summer and winter.

Solutions

The housing industry has learnt to develop climatic solutions to our housing problems other than the single-storey house on the perfectly orientated north-facing block.

My final decision was made difficult because I had to compare climatic solutions for two-storey houses and houses oriented for view or the shape of the block, neighbouring buildings, exposed beach conditions and prices varying from \$80,000 to \$350,000.

My final short list contained three houses built to adapt best to Perth's climate in very simple, practical, cost-effective ways, easily understood by most home-buyers.



Clerestory windows allow sunlight into the bedrooms (left) in winter but not in summer.

These were the winning Bristile/Tecto projects house at Somerville Estate, Kardinyo, the Somers/Jodrell house at Lesmurdie, and the Solar Construction/McFarlane house at Roleystone. All were designed using sound climatic principles and would be comfortable to live in.

The winning home included a number of distinctive climatic features such as a louvred timber pergola that let the sun into the house in the winter but excluded the summer sun, a glass house attached to the house that was used as a source of winter heating, and roof skylights that distributed winter warmth to the southern side of the house.

A risk involved in choosing these houses might be in having to pay slightly more for a comfortable house. Consumers must then decide if this cost is acceptable.

I hope that in future, this separate category of judging will no longer exist. When this happens, it will mean consumers and builders have included climatic considerations as part of normal house purchase.