



Blueprints of a solar-passive house in the Pilbara, top, has inspired architect Garry Baverstock's plans for many of his city designs as well.



The power is

House designs this century will look to reduce our demand for unrenewable energy resources. Danielle Wood reports

ARCHITECT Garry Baverstock has had his gaze fixed firmly on the future for years. Now he hopes the psychological turning point of those magical numbers, 2000, will make us realise the importance of housing which sits gently on Earth. Let's not be fooled, Mr Baverstock says, the greenhouse gas problem is not the fault of faceless big business but of choices made by individuals.

Individuals create 65 per cent of greenhouse gases through choices we make about the way we use our cars, build our homes and run our offices, and by our general attitude to energy use.

But it's not all bad news. Properly designed and run houses could all but eliminate the problem, said this long-time advocate of the benefits of solar-passive homes.

Mr Baverstock has been interested in solar passive homes for 20 years.

In that time, he has experimented enough to know that the principals of energy conservation and good design can apply to houses of all styles.

His firm has developed plans for a futuristic house designed for the North-West but he has implemented the same principles in suburban Perth homes in all manner of styles.

A home properly designed for the Perth climate, Mr Baverstock says, will not go below 18C in winter or above 28C in summer.

And those of us used to having \$1000 electricity bills each quarter would just have to get used to having \$25 bills.

So how can it be done?

First, buy a block with the correct shape and orientation.

How could this be possible for everyone? Surely after the best blocks have been picked out, someone has to live on the rest?

Mr Baverstock's answer is that we need to change the way subdivisions are made.

In a Clarkson subdivision, for which his firm was a consultant, 80 per cent of the blocks faced the right way and were of the correct dimensions.

No sacrifice was needed. It was a matter of putting more thought into it.

And that won't happen unless it's consumer driven.

Secondly, think about the shape and orientation of the house.

The long axis of the house should face east-west and be twice as long as the shorter north-south axis.

Think about cross-ventilation. You're looking for good airflow, from the south-west to the north-east, to trap cooling breezes during the hot summer.

Next, design your windows well. In the Perth climate, 50 per cent of your northern elevation should be glass.

You want maximum exposure to sun in winter, total shade in summer, with your winter living areas looking out over a sunny courtyard and your summer living areas opening into a shaded courtyard.

When it's time to lay bricks and mortar, use heavyweight materials. Concrete, brick and stone have six times the temperature storage capacity of lightweight materials.

And the final factor is insulation.

"In the workshops I give, I like to say that the first four factors are free and the insulation is the one which costs you money," he said.