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PROPERTY

Individually wrapped: a home for all seasons

Pictures: JOHN EDWARD LINDEN

Tom Rowland visits the winners of the *Daily Telegraph/Individual Homes* competition

THERE IS something very attractive about a house that stays serenely cool in its own gentle breeze in high summer yet is warm and snug on the coldest winter morning, without an inflated fuel bill.

We have had a big response from readers wanting to find out more about the winning house in the 1996 *Daily Telegraph/Individual Homes* competition, announced last week.

Our winners, Michael Winter, an architect, and Elizabeth Monk, of Tunbridge Wells, Kent, built their home on a woodland site close to the town cricket ground, and unlike most energy-efficient houses, this one is light, airy, and does not look like an air-field control room.

Actually, appearances are deceptive. Although the design has a delightfully delicate touch, the wood construction is very strong and the roof is well insulated.

Thanks to deep, overhanging eaves, the house stays naturally cool on hot summer days, yet needs no central heating in winter — a single wood-burning stove in the centre of the first-floor living area is enough to keep the whole house warm.

The key to making it all work is the orientation of the building. There are floor-to-ceiling windows along the whole of the south side of the main living area and hardly any openings on the colder, north side.

Michael Winter, who designed the house himself, also took advantage of the latest generation of low-energy windows, allowing the rooms to be light and airy without losing heat.

In place of conventional double glazing, he installed triple glazing, with an argon gas barrier filling the gaps between the sheets of low-energy coated glass. The insulation factor is more than twice that of double glazing.

At 2,900 sq ft, the building is twice the area of a conventional four-bedroom semi, and the total cost of the win-



Sunny side out: Michael Winter designed his home to be cool in the summer. The wood-burning stove provides all the heat in winter

dows, which have Scandinavian softwood frames, was around £15,000.

The deep eaves provide shade in the summer, and the surrounding trees provide a canopy of leaves to help to keep the house cool. In winter, when the leaves are off the branches and the sun is lower in the sky, its rays have a clear path through to the windows.

The internal room layout also helps to keep fuel bills low, with service rooms such as bathrooms on the north and the bedrooms on the warmer south side.

The bedrooms are all on the lower floor, and the open living, dining and kitchen area is on the first floor.

Mr Winter designed a timber-frame construction system for the house, based on beams made of scrap timber. These are used in place of conventional studs inside the walls, roof and floor, providing a deep cavity that has been filled with cellulose insulation made from recycled newspaper.

There is also a mechanical ventilation system, powered by electric fans, to bring in fresh air. This is connected

to a combined heat exchanger and heat pump so that the incoming fresh air is warmed from waste heat collected from the kitchen and bathrooms. Michael and Elizabeth calculate that the heat loss is just 15 per cent.

The heat pump is essentially the reverse of a refrigerator, an electric motor propelling a volatile coolant but with the heat collected and stored. A wood-burning stove is used to top up the heat in the main living areas on cold days.

The house is designed to be a cosy modern home

rather than a showcase for environmental purists, so to keep the bathrooms warm, electrically heated towel rails have been installed.

Copper rainwater pipes lead from the copper roof to an underground water storage tank, which provides all but drinking water for the house. Water from here is heated by a solar panel, but again there is an electric back-up for cloudy days.

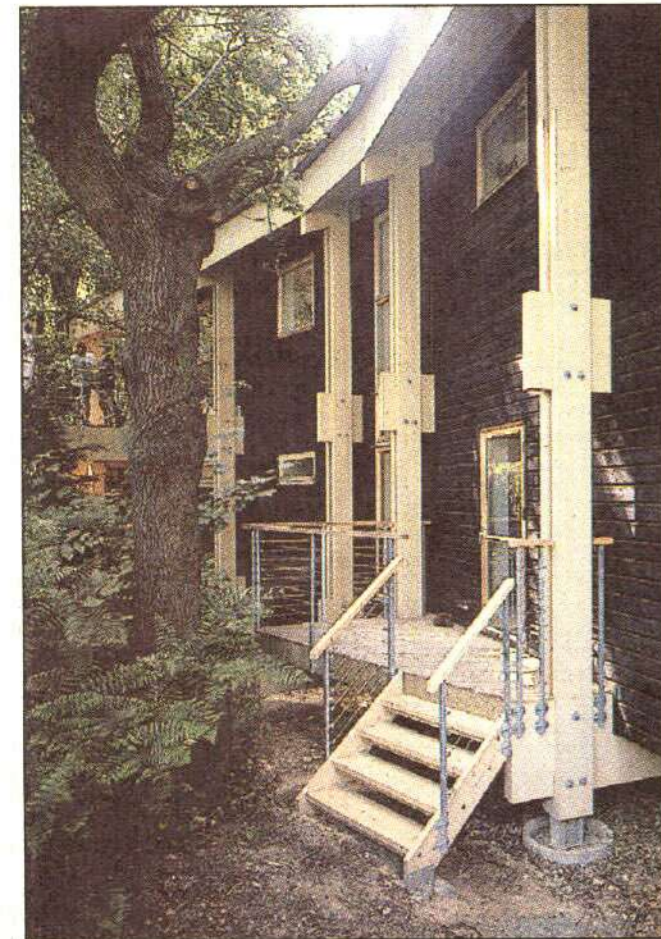
The site cost £65,000. After that, the total construction cost was £235,000 — around £70 per sq ft. It would have been cheaper were it not for

the underground tank: it had to conform to building regulations, which viewed it in the same light as a swimming pool.

The main external beams of the house are laminated wood — again, rather bigger than they need be in order to meet building regulations.

Inside, the main living areas are bright and uncluttered, with reclaimed wood floors throughout and detailing that combines good contemporary design with smart styling.

Michael Winter can be contacted on 01892 539709.



The house has triple glazing with argon gas barrier



Bedrooms are on the lower floor and warmer side