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local flavour

ECO-FRIENDLY ARCHITECTURE CAN BE AS SIMPLE AS JUST WORKING WITH NATURE AND NOT AGAINST IT, AS THIS HOME IN IPOH SHOWS.

thefacts

GREEN CRUSADERS THE KUBIKS – A GERMAN-MALAYSIAN COUPLE – AND ARCHITECT KEN YEH OF MARRA + YEH ARCHITECTS **HOME** THREE-STOREY BUNGALOW IN IPOH, MALAYSIA **SIZE** 5,000SQF

When Ken Yeh of Marra + Yeh Architects agreed to design the Kubiks' family home in Ipoh, the Sydney-based architect didn't just show them what it would look like. He also described the movement of the sun, the wind patterns around the house and the temperature swings, demonstrating how the proposed design would respond to these natural factors. "We believe that if you respect and understand nature and react to it in the most appropriate manner, you have basically taken the environmental route," explains Ken, who adds that all of the firm's projects are "green" homes.

The Kubiks' house is no exception. Situated between a hilly range and golf course, it stands out for its soaring roof and concrete, steel and wood structure. In response to the site, the building sits on a north-south orientation, with

moveable lattice shading systems, thermal walls and window coverings to lessen the heat of the setting sun in the west.

The structure was designed to be a wind tunnel, as it is located directly along the prevailing wind paths of the site. Except for the bedrooms, the other spaces don't require air-conditioning – the bi-fold glass doors that border the back of the house are opened to let the breeze in. Solar-powered water heaters cut energy usage, and there are plans to install photovoltaic solar panels to produce electricity for other energy needs.

Taking a holistic approach, the architect decided that the majority of building materials would come from local sources – both to reduce the carbon footprint incurred by transportation and to support local industries. At the other end of the spectrum, he adopted cutting-edge >



1 *Nature's Call*

The long overhangs of the roof protect the building from the harsh tropical sun, while ambient temperatures are reduced with the swimming pool acting as an evaporative cooler and heat sink (an object that absorbs heat) during the day. A lush garden has been planned and will come to fruit in a few years.

2 *Channel the Wind*

To take advantage of the wind tunnel effect of the home, which is sited in the path of the prevailing wind, a customised louvred front door lets the breeze in.

3 *Heat Shield*

These projecting window sills are deliberately angled away from direct sunlight. This illuminates the rooms indirectly, while cutting down on interior heat.



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Below and Above

The only materials that came from over 250km away are the bamboo flooring from China used in the kitchen and the durable roofing from Australia. Bamboo is not only long-lasting and eco-friendly – its flexibility also minimises stress on the ankles and joints.

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5 Enjoy the Breeze

Sans air-conditioning, the living room opens up to the garden to catch the prevailing winds from the valley beyond.

6 Building Blocks

The entire ground floor is clad in Ipoh marble. Other materials that were sourced from around the area include timber from Northern Perak and bricks from the local kiln.

7 Buy Local

Sustainable design also means supporting craftsmen in the region. Made of rattan, Japanese paper and Chinese linen, this lampshade was designed by the architects and commissioned from a rattan craftsman in Ipoh.



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technology to enhance the home's sustainability, with sophisticated systems like an evaporative cooler (a device that cools air through the evaporation of water) powered by rainwater.

Given such detailed specifications, the home took 25 per cent more time to build. However, it cost 30 per cent less than similar houses in the same development. This was in part due to the use of local materials, which are often erroneously perceived as inferior, explains the architect. Ken credits his talented team – Goldie Peligrino, Chee Wai Keong and Juile Cheah, for their efforts.

The firm's comprehensive environmental agenda entailed a visit for the Kubiks to the local marble factories and sawmills, so they would appreciate the labour that went into constructing their house. With such a thorough immersion in the building process, the family naturally came to cherish their home more. ●

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