



The Kimiko house uses a passive design to get its heat from the sun | Photo source [Condon Scott Architects](#)

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TINY HOME USES PASSIVE DESIGN TO RETAIN HEAT

 PROPERTY & CONSTRUCTION

A tiny home in New Zealand has been designed to stay warm in winter using passive sources of heat

Spotted: New Zealand architecture firm Condon Scott Architects has designed a tiny home that uses passive construction methods to supply heating. The house has won several awards for its innovative approach to sustainability. The house, dubbed the Kirimoko, has one bedroom and measures just 30 square meters. The design concept came from the houses’ owners after they travelled on an extended bike trip and lived exclusively out of panniers.

Despite its diminutive size, the house packs in all of the essentials. No space is wasted: drawers pull out of each stair tread and are concealed in the toe space under the kitchen joinery. Structural insulated panels (SIPs) were used for the roof and walls, chosen for their high insulation R-value and the convenience of prefabrication.

The external cladding uses a combination of larch weatherboards and asphalt shingles. Additionally, one whole side of the house is comprised of windows, while on the opposite is a floor-to-ceiling, glazed window. A window on the home’s north side allows winter sunlight to stream in, helping to heat the house. In the summer, deep eaves help reduce overheating.

The architects [described](#) the details of the home: “With a combination of Passive House measures and structural insulated panels, virtually no additional energy is required to maintain a consistent level of thermal comfort against the backdrop of the unforgiving Central Otago climate.”

Although tiny houses are not for everyone, similar passive construction methods can help to keep heating costs – and energy use – low in a variety of buildings. At Springwise, we have seen this in

recent innovations such as a self-cooling flat in Spain and a skyscraper with a folded façade that reduces energy use.

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Takeaway:

Passive houses are generally heated by the sun, and need to be built using high-quality insulation, energy efficient windows and an airtight design with controlled ventilation. When constructed correctly, passive houses do not require any additional heating systems. Aside from the obvious benefits of low energy use and high sustainability, passive houses are very quiet on the inside and are effectively future-proofed. For tiny houses like this, they also offer an opportunity to save on space.