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**Solar home  
with style**



**Powered by Gonoodle**  
The Tones' standalone  
energy system



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The home's interior is warm and healthy.

# Solar home with style

Photos by Stirling Images

Much interest is being shown in a home design that combines style, energy and cost in a totally new way.

Developed for New Zealanders by British-qualified architect Helen Richards, the design was trialed successfully in her own home and office, in Nelson. Tributes have come from the public, building authorities and the architectural profession.

Richards set out to show that environmentally smart architecture can be stylish and not cost a premium to build or live in.

"People feel at once how warm it is," she says. "It should never get cold – with no heat source other than the sun."

The stylish contemporary home, built by Philip Hay, is based on a design concept which Richards developed primarily for passive solar heating and healthy living. The design is adaptable to suit different style and site demands. Her work arises from a deep conviction about reducing energy consumption and its associated greenhouse gas emissions.

Extensive research was put into the design concept which is patented and subject to copyright. Richards' company, Powered Living Ltd, handles the architectural consultation work and marketing. A team of outside contractors provides structural engineering, construction, electrical energy and landscaping services.

With a floor area of 180 square



The modular design is adaptable.



Architect Helen Richards in her model solar home.

metres, including a double garage. Richards' home has three bedrooms, two bathrooms, home office and extensive living areas. Typical cost is estimated at around \$1500 per square metre.

Features include solar water heating, rainwater collection, low-toxicity finishes and materials, and double glazed windows with thermal breaks. The polished concrete floor is mostly uncovered to maximize solar heat gain.

Underfloor insulation prevents heat drain to ground, while timber-framed exterior walls are well insulated and clad in Zinalume, plaster and Lawsons

cypress.

Passive ventilation is also considered. Interior walls between the front of the house and the rear are ground and polished aggregate concrete tilt panels; elsewhere they are lined with Gib plasterboard.

Encouraged by a BRANZ home energy researcher, Helen Richards has installed data loggers to track temperatures and humidity around the home and test its thermal efficiency.

Christchurch architect Roger Buck notes that modular design is an architectural discipline more common in the UK. He commends Richards for developing a quality design that is affordable.

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