the GREEN LIVING magazine

ISSUE 9

The Green Living Show & New Zealand Organic Expo 2012

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A Green Living Network Event

More at www.goldenbayhideaway.co.nz. To view full report go to http://goldenbayhideaway.co.nz/design_build.

Left: Little Greenie has the highest performance rating of any house in New Zealand. © goldenbayhideaway.co.nz
Right: Furnishings and appliances of Little Greenie were chosen for their energy efficiency as well as an eclectic fashion sense. © goldenbayhideaway.co.nz

Eco chic, Westmere

The family that lives in this home wanted a 4-bedroom house that buys in minimal energy and water and maintains a comfortable indoor environment year-round with little intervention by the occupants.

The existing 1938 house was moved off the site and Auckland architectural firm ebode designed and built a home to fit the site and the family's needs. The house uses passive solar design – good orientation to the sun, thermal mass in the well-insulated concrete floor and Timbercrete walls, high levels of insulation, and high-performing glazing.

Heating and cooling are mainly by the sun, boosted with a very efficient woodburner. A solar heater heats water, boosted by the woodburner and with electricity on the rare occasions it's needed. The windows and a heat-transfer system are automated to keep the temperature even throughout the house. Photovoltaic panels integrated into the roof generate electricity.

The house scores high marks for materials: NZ-grown naturally durable timbers such as Eucalyptus Saligna, Douglas Fir and Lawson Cypress, non-toxic paints and finishes, wool insulation, locally-made floor tiles and NZ carpet.

Under the lawn is a big water tank that supplies all the non-drinking water, reducing the family's water bill by more than 60%.

More at www.ebode.co.nz.

Solar powered house, Nelson

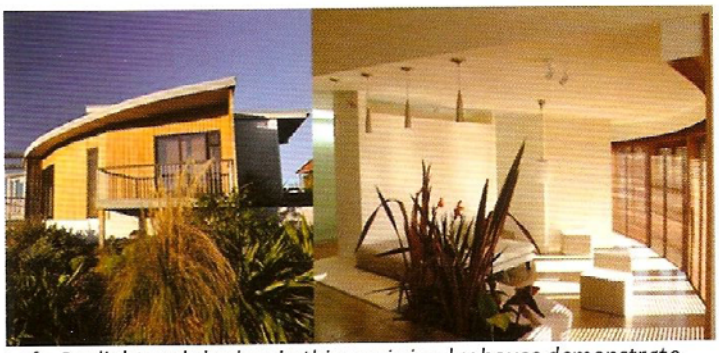
Nelson architect Helen Richards' north facing semi-circular home is fortunately positioned to capture the views over Tasman Bay as well as the sun's heat. It uses a well-insulated timber structure, expansive areas of northern glazing, a concrete floor and concrete internal walls to store and release solar energy, keeping the home at a comfortable temperature with zero need for space heating.

Low-e coated double glazed windows are framed in thermally broken aluminium – even now an advanced insulation detail – and filled with argon gas, for higher insulation performance. Centrally located clerestory (high) windows allow sunlight to enter deep into the house, and provide passive ventilation all year round.

Solar water heating generates around 85% of hot water needs. The house is also carbon zero; photovoltaic panels on the roof generate the total equivalent power used. The house is insulated with recycled wool - a natural alternative to fibreglass – to twice the Building Code levels then in force (2004). The house also includes sustainably sourced materials and low-toxicity interior finishes for a healthy internal environment.

The Powered Living house was granted the first 'excellent' rating for the BRANZ Green Home Scheme, and was a finalist in the National Year of the Built Environment Awards and the Tasman Nelson Environment Awards.

Visit www.poweredliving.co.nz for more info. ■



Left: Sunlight and shadow in this semi-circular house demonstrate the benefits of passive solar design for winter sun and summer shade.
Right: A sunken living room allows higher windows and sunlight to enter deeper into the building in winter.

By Fred Braxton and Eion Scott

Left: The ebode house uses modern European tilt-turn windows with high degrees of insulation.
Right: Eco chic is achievable in an urban setting, complete with patio woodburner. The Timbercrete wall is concrete incorporating sawmill