



new frontiers in green building

sustainable green living and healthy non-toxic homes
will not only be a reality, but the norm in years to come.



The movement towards green building principals is gaining momentum and is changing the way New Zealanders construct homes. Several industry leaders in the market are striving to ensure that sustainable green living and healthy non-toxic homes will not only be a reality, but the norm in years to come. Rod Percival, owner of Rod Percival Builders is one such industry leader who believes the future is green. He and his team are currently adapting green building methods and ideas to suit our environment and resource capability, and very soon the public will be able to view the results in a beautiful show home in Whitianga. Just weeks away from completion, Rod has entered the show home in the show home category of the coveted Registered Master Builders House of the Year Awards in association with Placemakers, judged this year in July.

Rod recently went to Albuquerque and Santa Fe to talk to architects, designers and leading green builders who started to make huge changes in house construction some years ago. "Their building methods and energy saving ideas, like pumicecrete homes and the use of recycled timbers were a huge inspiration to name a few. And the exciting part is we have the ability in NZ to start making these changes now." Many sustainable, non-toxic building materials are available now on the New Zealand market, such as Low- and zero-VOC (volatile organic compound) paints and oils, plantation timber, wool insulation and furniture with significant recycled content.

"I decided to build the show home to demonstrate what is possible – I sincerely hope it will encourage other developers and builders and prove what can easily be achieved with smart choices. Building isn't about just building a house; it's about creating homes that keep us safe, our environment safe and our families healthy."

The show home in Whitianga utilises many green building ideas including natural wool insulation, Caroma Smartflush toilets, Methven Satinjet showers, Apricus solar hot water and under floor heating, Plantation Saligna decking, Lawson Cypress pergolas and NZ grown cedar cladding, recycled timber trim throughout and energy saving light fittings. American clay plaster to interior walls.

The energy saving materials in the states were also an inspiration for Richard Gooch and Bryce Manion who founded American Clay Earth Plasters while running a successful plastering company in Aspen Colorado.



Satinjet shower by Methven



Wall preparation by American Clay



Leda 2000 Smartflush by Caroma

Richard and Bryce soon realised that American Clay, which is regularly used in America and Europe due to its energy saving capabilities, had potential in the New Zealand market. They have since established themselves as Earth Design and trained people all over the country in the application. American Clay is a practical, environmentally friendly alternative to cement, gypsum, acrylic, and lime plasters. American Clay, which is imported and distributed by Earth Design, was a perfect fit for the show home. Largely produced from recycled material, American Clay takes very little energy to produce, is absent of harmful gasses from petroleum-based additives or formaldehydes, and testing has shown that using American Clay will save 5% per year in total energy required to heat and cool the home. Because clay naturally controls the interior climate by absorbing moisture in response to environmental changes - walls are warm to the touch in winter and cool in summer. American Clay was also voted best green product by the 2004 National Association of Home Builders in the USA.

Although there have been developers and builders that maintain what Rod calls 'head in the sand' thinking, most are embracing the changes and accepting the future of building is about offering clients a healthy house with green choices and sustainable products. "That's the encouraging part," says Rod.

Rod is excited at how many partners have come on board with the show home, including Earth Design, PDL, Methven, Whitianga Plumbing and Drainage, Caroma Industries, Cavity Sliders, Eco Insulation and J L Connolly Painters who are all partners in the show home project.

Leading shower and tapware company Methven have been on the cutting edge of environmentally friendly products for a number of years, and jumped at the chance to be part of the show home. By simply adjusting the flow-restrictor that comes with the Satinjet shower head, water consumption can be reduced from a conventional flow of 25 litres a minute to 14 or nine. Tim Coopey from Methven points out that the Satinjet shower head will save up to 40% on water and energy usage, and can reduce carbon dioxide emissions, simply because less water to heat means less energy required.

Harnessing the energy of the sun through solar has been a viable supplement or alternative to electric or gas hot water production for some time. The cleanest and most inexhaustible of all known energy sources, solar energy can be used for a number of applications including producing hot water and under floor space heating. Kevin



Cavity Slider example by CS For Doors



Garage door



Entrance



Eco Fleece insulation by Eco Insulation

Shaw from Whitianga Plumbing and Drainage who is installing the Apricus Solar Heating Systems into the show home explains the solar heating can mean no electricity costs in the summer and up to half the electricity usage in winter. It can also reduce a house holds total CO2 emissions by more than 20%.

Back in 1982, long before the green building movement transpired in New Zealand, Caroma introduced the first two-button dual flush cistern, reducing the traditional 11 litre single flush to 11/5.5 litres. Caroma is once again leading the way with a new generation in toilet suite water saving technology, Caroma Smartflush. This innovation reduces water consumption from 6 litres to 4.5 litres for a full flush. Using a Caroma Smartflush toilet suite to replace an old 11 litre single flush suite, would average approximately 35,000 litres of water savings within the home each year. At a time when water conservation is an important issue and with toilet suites accounting for approximately 20-26% of in-house water consumption, Caroma Smartflush is a perfect fit for the show home.

“Resene paint, which we have used on 95% of the interior and exterior of the house, has been leading the market for some time in terms of eco friendly products, and now it's obvious that other market leaders are following that example,” says Dean Horn from J L Connelly Painters. Paint manufacturing has certainly come a long way with toxic substances such as mercury, arsenic and lead, no longer tolerable ingredients in paint. Recent attention focused on volatile organic compound (VOC) emissions has prompted Resene to initiate the Environmental Choice program that focuses on the need to reduce these emissions, and five years since developing these products Environmental Choice products are outselling their solvent borne equivalents.

Insulation on the show home is being provided by Eco Insulation which uses wool off the back of our very own New Zealand sheep. Wool as an insulation is naturally effective in stopping heat loss, condensation, and noise flow, and best of all it's ecologically sound, cost effective and completely safe to install without gloves or protective masks.

“As far as green building goes, the Cavity Sliders are about as green as it gets,” says Anton Hendriks from CS For Doors, who are also coming on board with the show home. All the products used in cavity sliders are fully recyclable and any wood used is from sustainable clear pine plantations in New Zealand. Cavity sliders are easy to install and take up far less space than ordinary hinged doors.

Even the smallest changes can help. PDL's new Strato 800 series have been used for the electrical light fittings. Dimmers have also been used which can lower the energy consumption while the lights are dimmed.

“The change will happen fast - New Zealand is a small country with a small population. But we're going to have to move fast, our position on the globe makes us very vulnerable to the effects of global warming.”

And as Rod points out, a green mind-set is needed from the start of development decisions and needs to involve the whole team - the owner, the architect, the designer, the builder and staff and sub-contractors. Join us next issue when we peruse the finished show home.

Proudly supported by:





World class interiors

With over 25 years experience in the industry Earth Design have a passion for all things green and see the future as being sustainable.

Mt Maunganui based innovators Earth Design Ltd are New Zealand's importers and distributors of American Clay Earth Plasters. They look after the Bay Of Plenty area and have registered applicators throughout the country.

Company owners Richard Gooch and Bryce Manion discovered American Clay Earth Plasters while running a successful plastering operation in Aspen, Colorado.

After five years in Aspen working on top-end residential projects, where solid coloured interior plaster is regularly used, the pair jumped at the opportunity to bring these products back to New Zealand.

Coloured clay plasters are still uncommon in New Zealand but have been used for centuries in Europe, Asia and the US. Gooch and Manion believe that AC will provide a sustainable and healthy alternative to Paint or Paper for Interior Finishing. American Clay is compatible with both new and existing interiors.

Voted best Green Product 2004-2005 NAHB (national association of home builders) USA.

11 GREAT REASONS TO USE AMERICAN CLAY

- 100% natural
- Made of clays, marble dust, aggregates and natural pigments
- Produced from 80% recycled materials
- Takes little energy to produce creating a minimal environmental impact
- Award winning Green Building product
- Available in over 40 colours
- Contains no VOCs
- Non-flammable
- Mould and pest resistant
- Won't fade or dust
- Provides 5% in energy savings per year



Earth Design Ltd

Richard Gooch | 0275 723 984
info@earthdesign.net.nz

Bryce Manion | 0275 723 829
info@earthdesign.net.nz

www.earthdesigns.net.nz

Experience the Beauty of Building Green

Green Building is sweeping the consciousness of New Zealand. Not only for its intrinsic beauty and environmental philosophy but for the positive health and economic benefits green building provides to those fortunate and farsighted enough to live in a chemical free, healthy home.

Percival Homes are committed to providing personally designed green homes for their clients.



The Fireplace Restaurant - NZ Redwood cladding, Recycled sarking flooring and beams



Eccles Residence - Whitianga

percival homes are committed & passionate about:

- creating healthy homes
- reducing carbon miles
- the non use of rainforest timber
- designing environmentally responsible homes for you and your site
- using sustainable and recyclable products
- passive and active solar energy
- reduction in site waste to land fills
- striving to eliminate the use of toxic products and chemicals

Interested in green building?

Please give Rod or the team at Rod Percival Builders Ltd a call to discuss your future green home.

Mb: 0274 990 844
Office: 07 866 2818