

the green wagon

AN ARCHITECTURAL DESIGNER ANSWERS THE QUESTION: HOW SMALL CAN YOU GO AND STILL HAVE A LIVEABLE SPACE?

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The build

Rita met Klaus Wagmann, a German cabinet-maker who lives in Takaka, and persuaded him to build the wagon. Construction began in March 2008 and was finished in November. Along the way, Rita and Klaus fell in love and while the original idea was to build the wagon and move it off Klaus's property, that hasn't yet happened. Having finished this one, though, the couple is happy to take orders from others who would like a wagon of their own.

nelson-based weka electronics designed and manufactured the led reading lamps that use just one watt of energy and the ceiling lamps that use three watts

The bones

Had the trailer been made commercially, it most likely would have had an aluminium or steel frame, but Rita preferred to use treated pine. The wood is local and provides better insulation than metal. The chassis was custom-built in Timaru and the waterproof roof is butynol. Rita had the use of native timber from her former property, choosing wood from a dead rimu for the wagon's floor while Klaus crafted the kitchen cabinets from rimu and white pine and the bench top from beech. The interior is lined with plywood which was a slight compromise on the timber lining of traditional wagons. Plywood is more economical and is also a good material for bracing the frame which is especially important when the wagon is moved.



The idea

Rita Virtama has always been fascinated with small spaces. Born in Finland, the 47-year-old trained as an interior designer in London and the United States and often wondered why we need such huge houses filled with so much stuff. After spending a couple of years working on the interior design of commercial properties in Finland, she came to Tasman in 1988 with her then-partner, a Kiwi. Here she found interior design work pretty much limited to kitchens and began doing more architectural design work. In 1992 the couple bought property in Golden Bay and, when the relationship ended, Rita wanted a "clean, Zen space" that was comfortable, practical and warm and where she could keep her horse nearby. She knew a number of people with a spare corner on their land and was attracted to the idea of changing neighbourhoods and views but not homes. Commercially available caravans didn't suit her needs so she designed her own. As it happened, the 8m-long, 2.2m-wide curved-roof wagon is very similar to traditional Gypsy caravans found in Eastern Europe.



Finishing touches

Rita used water-based polyurethane varnish from Resene on the interior walls, saying that the water base makes the product more environmentally benign (the varnish is in the company's Environmental Choice range) than a solvent-based one and the polyurethane creates an easy-to-clean surface. She also chose paint from Resene's Environmental Choice range for the exterior walls. The bench top, interior timber and all joinery are finished with oils from Bio Paints and the floor wax also comes from the Nelson-based company that specializes in paints and finishes made from natural ingredients such as plant oils, tree resins, china clay and talc.



the wagon can be plugged into the mains for electricity supply but four roof-mounted solar panels make it self-sufficient. a battery bank and inverter are stored under the living-room seat

Keeping warm

Using as many natural products as possible was a must and choosing locally sourced wool for insulation was a no-brainer for Rita who wanted a wagon "that had integrity from the beginning to the end". For added warmth, the wagon has a wood stove, custom-made by Christchurch stove-maker Giovanni Frances. Water is heated on demand by a Calfont gas water heater. The aluminium-framed windows were made in nearby Motueka and are single-glazed. That was a compromise, says Rita, to keep the weight of the wagon down. To compensate for any lost heat, curtains are made of hemp fabric with thermal lining from Auckland's Hemptech.



Independence

The wagon is self-contained with a gas cooktop, 12-volt refrigerator, inside toilet and basin and an outdoor shower. A 260-litre water tank is mounted underneath, filled by rainwater from the roof. Commercial guttering was far too big for the trailer's profile so waste pipe was cut in half. While Rita has no idea how much the wagon weighs, a 4WD or tractor would be able to move it just down the road but, for a longer haul, it would best be loaded on a flat-bed trailer.



Work and life

Rita has felt strongly about "being green" since her early 20s and believes that the environmentally friendly aspects of building and architecture shouldn't be advertised as special features but should be naturally incorporated into the design. She works for Nelson-based Arthouse Architecture and says that while clients are beginning to ask about environmental aspects of design (most are concerned with passive solar heat, energy use and insulation) very few ask about embodied energy – the total energy required to manufacture and supply products to the point of use – or the environmental friendliness of things such as paints and other finishes.