

# ReNew

Technology for a sustainable future

Issue 133

REUSE & RECYCLING SPECIAL

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## Off-grid home

from earth, cans and tyres

### PLUS

Gas vs electric heating

Shipping container converts

The DIY life & more



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**Waste not, want not:** tech recycling  
**Low-cost owner-build:** keeping it simple  
**Passive House:** all sealed up in Canberra

**LED lighting**  
**Buyers Guide inside**



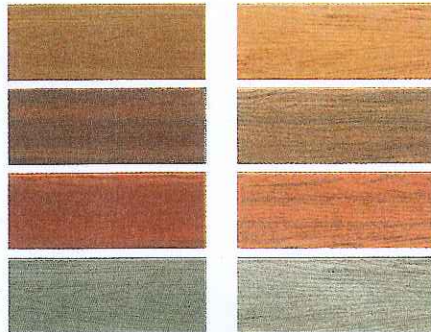
## 10 Vortex power

In the hydro buyers guide in the last issue of *ReNew* we looked at the Zotlöterer turbine, which works using the rotational vortex created as a large volume of water flows down through the turbine unit. We lamented its unavailability here, not realising that a local company has developed a similar turbine designed for high-flow, low-head situations.

The Australian-invented Kouris Centri Turbine Generator from Kouris Power features an elongated cylindrical turbine mounted vertically in a close-fitting vortex chamber. The turbine shaft has top and bottom end-plate/bearing assemblies for reliability and ease of maintenance.

The unit requires a fall of just one to two metres, or even less, so it is ideal for run-of-river or in-dam power generation. The pilot plant in Marysville, Victoria, using a fall of only 0.6m and a flow of 110L/s can produce over 500W, or 12kWh per day—more than enough for a modern energy-efficient home. However, models are available with outputs up to 5, 10, 20 or even 50kW with sufficient flow.

RRP: dependent on site. For more information contact Kouris Power, Suite 618 Owen Dixon Chambers (West), 205 William St, Melbourne VIC 3000, ph: (03) 9225 7212, [kourispower@gmail.com](mailto:kourispower@gmail.com), [www.kourispower.com](http://www.kourispower.com). Available in Australia through Vortex Earth Energy P/L, 3C The Crossway, Campbellfield VIC 3061. Contact Rohan Searle, ph: (03) 9357 6579, [rohan.searle@jbtooltech.com.au](mailto:rohan.searle@jbtooltech.com.au), [www.jbtooltech.com.au](http://www.jbtooltech.com.au).



## 11 Fire-resistant decking

We looked at Modwood decking some years back, and since then quite a few other wood/plastic composite decking materials have entered the market. However, none of them has the fire resistance of the latest Modwood product, Modwood Flame Shield.

Flame Shield incorporates a flame retardant into the composite material and is rated for use in bushfire zones of up to BAL 40, making it suitable for the vast majority of bushfire-prone homes.

Flame Shield is available in four colours—Sahara, Black Bean, Jarrah and Silver Gum—and two finishes, smooth and brushed. The decking has a deeply embossed woodgrain pattern, giving it greater slip resistance than smooth boards, and comes in 137mm wide x 23mm thick boards, in 5.4 metre lengths.

Flame Shield is designed to be fixed on joist centres up to 450mm and weighs 3.7kg per lineal metre (25kg/m<sup>2</sup>). It can be fastened using either screws or nails, and supports secret fixing. It is Global Green Tag certified and is designed and manufactured in Australia.

For more information, contact ModWood Technologies, ph: (03) 9357 8866, [info@modwood.com.au](mailto:info@modwood.com.au), [www.modwood.com.au](http://www.modwood.com.au).



## 12 Recycling for difficult waste

While we all try to recycle common waste like paper, glass and plastic containers, there are many other products that normally go to landfill as there is just no simple way to recycle them.

Terracycle provides a service whereby you ship these materials to them and they take care of the processing and recycling, turning them into useful things such as recycled plastic timber substitutes. You purchase a Zero Waste Box from Australia Post or Officeworks outlets and the cost of return shipping and recycling is included in the price of the box.

Items that can be recycled using Zero Waste Boxes include coffee capsules, snack wrappers, beard and hair nets, pens and markers, plastic gloves, office supplies and storage media, including CDs, DVDs, records, cassette tapes, floppy disks, memory sticks and even external hard drives.

The boxes are sized to suit businesses rather than individual households, although communities could also make use of this service, given enough waste material.

RRP: from \$129 to \$219 through Australia Post, depending on box size and targeted waste. A more limited range is available from Office Works at slightly lower prices. For more information contact Terracycle, ph: 1800 983 324, [customersupport@terracycle.com.au](mailto:customersupport@terracycle.com.au), [www.terracycle.com.au](http://www.terracycle.com.au). Also see [shop.auspost.com.au/pack-post/recycling-boxes](http://shop.auspost.com.au/pack-post/recycling-boxes) and [www.officeworks.com.au](http://www.officeworks.com.au).