

# EVERYTHING OLD IS NEW AGAIN

Two narrow city blocks showcase how the right materials and design can help build in extra space, light and energy efficiency into a home.

**WHAT'S HOT**  
IN CITY LIVING



## RECYCLING RETURNS

The use of timbers, inside and out, is the striking design feature that brings cohesiveness to this new house in Brisbane.

The forest meets the city in this urban design that not only works visually and structurally but also makes effective use of materials with a low-embodied energy, just one aspect of the home's energy-saving design.

"The efficient use of timber includes locally made Boral plywood, which was used extensively," says

designer Chris Schofield.

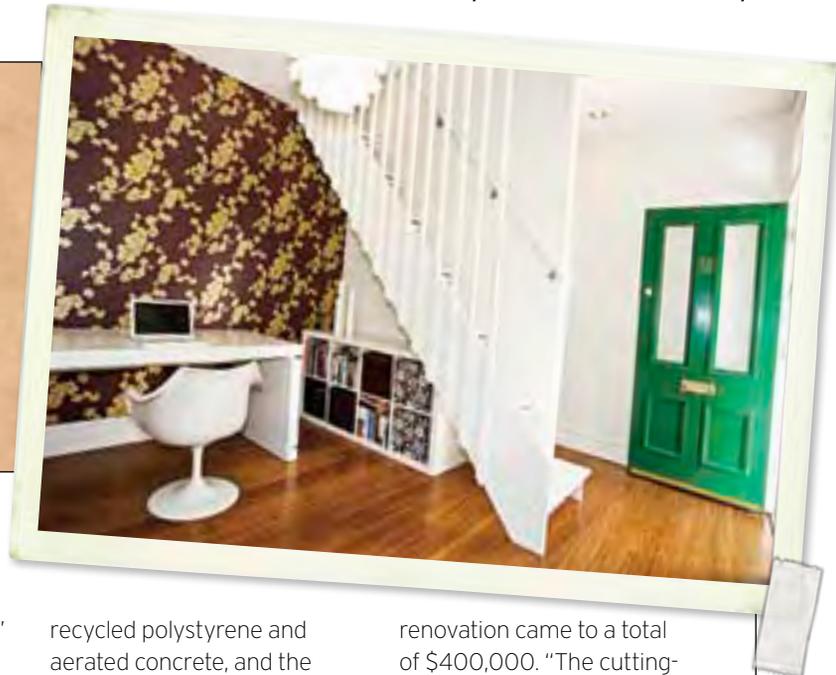
"We made maximum use of cheap materials for maximum effect in design, such as the roof trusses left exposed to become a feature as well as a main structural element.

"Slabbed and milled camphor laurel from a tree felled on the property, which was dried for one year on the property and then kiln dried for three weeks, was used throughout the house including the benchtops, stair treads, stringers and banisters."

Even the old garden fences were re-used. Other materials include locally sourced pine, recycled hardwood floors, painted weatherboards of plantation hoop pine treated with light organic solvent preservative, and low-grade plywood used as a feature for robes and sliding doors. "The house was designed with passive heating and cooling in mind, by making the most of the site orientation and the cathedral-style roofing," says Schofield.



- 1 When going upstairs is the only option to get space, make it easy with lightweight materials.
- 2 Salvage and recycle features to combine a bit of the old with the new.
- 3 Put unused roof space to good use with solar panels that can power a whole house.
- 4 Rainwater tanks aren't just for big country properties; they can suit small city pads too.



## CUTE TO CONTEMPORARY

From the outside, this 19th century inner-city Sydney workers cottage looks like any other.

The glimpse of the solar panels on the roof is the only sign that there is more than meets the eye behind the facade.

It's not until you step inside that you fully appreciate how this typical old, dark and dingy one-bedroom terrace has been transformed into a two-bedroom sustainable, contemporary and light-filled home that is anything but typical.

"We took a holistic approach to sustainability, which addressed energy, greenhouse [emissions], water, materials, indoor environment quality and

long-term cost effectiveness," says the home's owner and architect Caitlin McGee.

It certainly was the right approach, as the renovation won the 2009 Housing Industry of Australia (HIA) GreenSmart Home of the Year Award.

The study at the front of the house was the only part of the original house to remain. As the front of the house faces north, the once-enclosed front room was turned into an open home office to draw in borrowed light from the rest of the house.

Years of bad renovation jobs in the rear were completely cleared for maximum open-plan space and light.

The new external walls on the ground floor are made of a lightweight material using

recycled polystyrene and aerated concrete, and the upstairs attic walls are clad in fibre cement - which delivers good thermal performance when appropriately insulated.

Where possible recycled materials were used, and some were salvaged from the original house, such as the old front door, steel from the roof and light fittings. The garden pavers were also re-used alongside a decking made from sawdust and recycled plastic.

Water-efficient fixtures and a native garden reduce the house's demand for water. A slimline rainwater tank in the courtyard also doubles as a feature wall, tying in perfectly with the contemporary design.

The cost of the sustainable

renovation came to a total of \$400,000. "The cutting-edge 'green' approach added less than 3% to the total construction cost and also reduces bills and vastly improves livability," says McGee.

"The home is carbon positive. Its 1.26 kilowatt photovoltaic system generates almost twice the electricity used by the home. The key to achieving this was energy-efficient passive design and use of the most energy-efficient technologies and appliances available, including solar hot water."

So, McGee proudly says, as of January 2010 she will get a credit, because she's putting energy back into the grid.

Screens to protect from low summer sun were installed, and the vents over internal doors increase ventilation. Add to that roof and wall insulation (with recycled content), and the house is comfortable throughout the year.

The rewards are evident in the most recent quarterly electricity bill, which was only \$50, he says.

And yet another tick on the sustainability checklist is the fact that the entire house uses its rainwater supply, even for drinking water. ☐

