

ECO PROPERTY

Homing in on emissions

Architects are convinced sustainable housing can become the norm in Australia, writes **Hannah Tattersall**.

By 2016, all new houses in Britain will be zero-emission homes. By 2020, the same will be true across the European Union. Australia has no targets. But one architect hopes to bring change.

Pidcock Architecture director Caroline Pidcock has just won a Byera Hadley Travelling Scholarship to Europe, where she hopes to learn what Australia can do to make sustainable housing more attainable, something she says is easily achievable, considering our warm climate.

Pidcock says there are options for designers and home buyers to consider when designing a home that won't cost more to build than the alternatives. It often comes down to getting the right advice.

"First, you've got to invest in some really good design just to get the orientation right. Get the house facing in the right direction, capturing desirable breezes and

protected from undesirable wind, capturing sun in winter and keeping it out in summer."

She says the size of the house is of great importance: "The smaller the house, the more cost effective it is to build, run and operate. Through good design you can actually make small spaces feel much bigger than they are. You can reduce your impact while not reducing your amenity."

Pidcock says the weakest link in insulating houses is window and door frames. Timber frames are much better than aluminium ones, which conduct heat into the house. In place of traditional aluminium frames, thermal barrier aluminium frames are starting to be introduced. Frames with double glazing e-coatings can also be useful in reducing heat gain in summer and heat loss in winter.

Architect Cameron Rosen's Eco-challenge project in Sydney's Rose



Bay, due for completion in July next year, is an example of sustainable residential housing. Rosen is building an 8-star house, which is almost emission-free (a 10-star rating is the highest rating for residential property, not to be confused with the green-star ratings used by architects in relation to commercial property). Rosen's company, Australian Living, uses "green concrete" (with 30 per cent recycled content) instead of bricks.

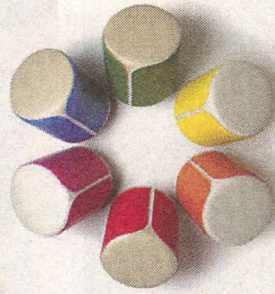
Pidcock says with the right thermal mass, house temperature can be controlled: "You can use people and cats and dogs as heaters with the right thermal mass and design tricks."

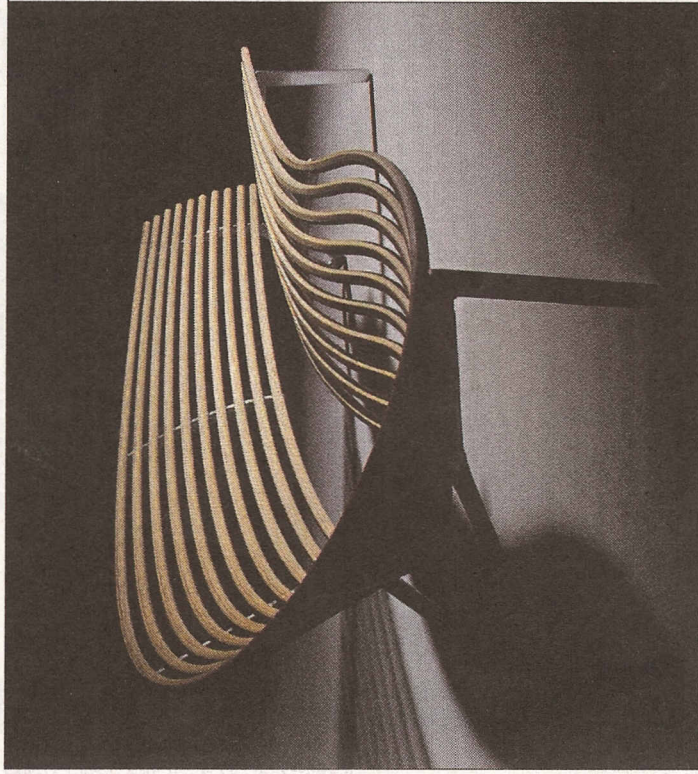
Rosen agrees: "In a traditional brick house the outside layer is brick that heats up all day. The heat goes straight through to the inner skin. Older houses that don't have insulation are like hot boxes in summer and freezers in winter. "The outside temperature is being stored in the bricks. It's coming through to the inside.

"We've chosen to design houses with masonry on the inside and insulation on the outside to protect the thermal mass," he says.

"Why would I spend \$35,000 on an air-conditioning system when I only need it a few days a year?" asks Rosen. He says home owners should offset air-conditioning with a solar-powered electricity system.

We've chosen to design houses with reverse masonry.





Left, Woodmark meets Living Edge's sustainability criteria for the lines it stocks, and below, Norman + Quaine furniture. Facing page: the Eco-challenge project in Sydney's Rose Bay. Photos courtesy Cameron Rosen and Living Edge

certification – making sure that the product, materials and parts don't end up as landfill.”

Living Edge has been developing a sustainability strategy for the past two years and now labels products that have been approved by GECA with a “LivingOn” label, so consumers can tell if the product meets industry standards.

“We really took a leadership position because we're a distributor of furniture, so not a huge carbon emitter or anything like that, but we've developed quite a holistic approach to sustainability,” says Holmes.

Products that meet these standards might include those made from materials which are recycled, or that can be recycled; others might come from manufacturers that use certified timbers from sustainable sources.

Brands such as Woodmark, Norman + Quaine and US-based company Herman Miller

meet these standards and are stocked by Living Edge.

Living Edge offsets the carbon cost of freighting all imports from Herman Miller, including the range of environmentally certified furniture.

Items are made from materials that are recycled, or that can be recycled; others might come from manufacturers that use certified timbers from sustainable sources.

Herman Miller products also come with a 12-year warranty, to encourage people to keep items longer rather than sending them to a landfill.

“Our industry is being driven by the Green Building Council of Australia and green-star certification, so they look for the long warranty on products,” says Holmes. These days an environmental management system to measure things like energy use, water use and waste is something most manufacturers of high-end furniture should have, she says.

“By being sustainable you don't have to compromise aesthetics,” Holmes says. “Our range of furniture is high-end design and

it's attractive and contemporary.” Another supporter of the eco-aesthetic is SunnyLIFE creative director Joel Bartfeld.

SunnyLIFE produces a range of products using bamboo.

“We're focused on merchandising and consumer appeal and trying to be as non-impactful on the environment as we can,” says Bartfeld.

However, gaining consumer support for his products hasn't been easy. He says the eco-friendly home products industry is still emerging and that the market is competitive.

“Ideally, we'd like to be as environmentally friendly as possible but we also have to meet our market's needs.”

SunnyLIFE products focus on functionality as well as aesthetics.

Another company producing eco-friendly homewares is Byron Bay's Bird Textiles. Designer Rachel Bending uses solar-powered energy to make its range of reversible cloth placemats, cloth serviettes, gift wrap printed on recyclable paper with soy-based ink, carry-bags and umbrellas.

Rosen's Eco-challenge property uses a 3-kilowatt photovoltaic system, which he says will supply the house with 90 per cent of its electrical needs.

Rosen recommends designing using the three keys to sustainability: energy efficiency, thermal comfort and working with the right materials.

When it comes to the inside, more suppliers and decorators are adopting a more sustainable approach. From energy- and water-saving bathroom and kitchen fittings to recyclable storage facilities, interior decorating companies are finding greener alternatives to offer home owners.

The people, product and planet manager at furniture store Living Edge, Mary Holmes, says the store stocks more than 80 products that are certified by Good Environmental Choice Australia.

The organisation monitors the types of materials used by organisations in the manufacturing of products.

“They [GECA] look at the labour aspect as well [as the materials used] to make sure people are being paid award wages,” says Holmes. “One of the key issues around sustainability is being able to disassemble a product and isolate the different components so they can be recycled. That's a key criteria on the green-star

