

# Sanctuary

MODERN GREEN HOMES

ISSUE  
66

Small space success in a Canberra apartment; moving your rental garden; eco lining boards; introducing the Sustainable Builders Alliance

**Sustainable  
House Day 2024**

**Open homes are back!**

Previews and event  
program inside



**WIN**

A Stiebel Eltron hot water heat pump valued at \$6,250, provided by Goodbye Gas.

Offer open to Australian residents. Details page 85

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## Sustainable House Day

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### Plan your day

Inspiring green homes around Australia are once again opening their doors for this well-loved event. See page 16 for the full program.

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## PRODUCTS

These eight featured products are independently selected by our editorial team. If you have recommendations for products you think would be of interest we'd love to hear from you. Email: [sanctuary@renew.org.au](mailto:sanctuary@renew.org.au)

### 1 Efficient, stylish windows

Binq's uPVC-framed windows feature slimline framing, allowing maximum natural light and bigger views. Manufactured in Melbourne, the windows and doors are available in double- or triple-glazed units and are crafted from Aluplast's 'energeto' series: thermally efficient recycled plastic frames with a foam core. The highly insulated windows boast very low U-values, significantly reducing both heat loss and gain, leading to substantial energy savings. The frames are durable and require minimal maintenance compared to timber. The range includes awning, tilt-and-turn, casement, sliding and fixed windows, with various door styles as well.

[binq.com.au](http://binq.com.au)



### 2 Plug-and-play induction cooking

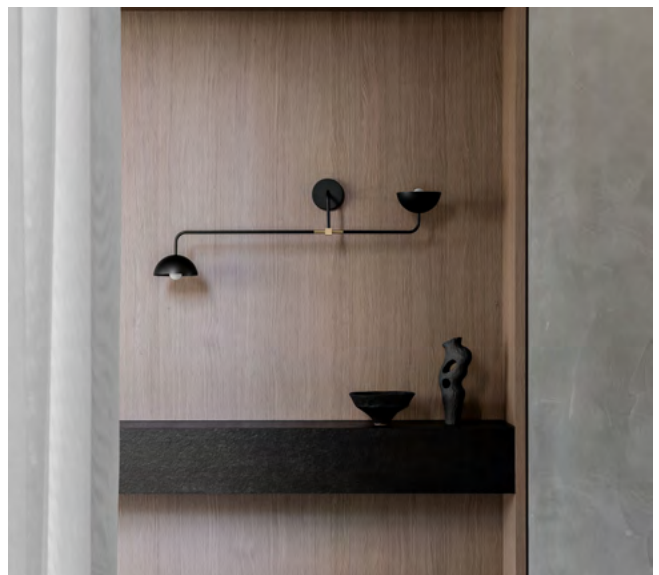
As regular *Sanctuary* readers will be well aware, induction cooking is rapidly replacing gas cooking as people look to go all-electric and get a better, more energy-efficient cooking experience. This single-zone portable induction cooktop from Westinghouse could be good for those doing a kitchen reno or wanting to try out induction, for tenants seeking a break from the gas stove, or even to take on holiday. The slim design has a 4cm profile and temperature settings between 60 and 240 degrees Celsius. Available for around \$120 from Enviroshop.

[enviroshop.com.au](http://enviroshop.com.au)

### 3 Ready to use veneer panels

Eveneer Prefinished is a real timber veneer that can be applied directly to joinery and furniture, ready to use in prefinished sheets and panels. Available from Elton Group, the veneers are supplied polished, complete with UV inhibitors and an E0 formaldehyde rating for low toxins within the home. Eveneer can be made with FSC-certified timber (plantation timber is standard), so include your preference when ordering. The veneers are flexible for application on curved surfaces, and matching prefinished timber edging is also available. Pictured is Eveneer Prefinished Fango Groove, in an installation designed by McKimm. Image: Timothy Kaye

[eltongroup.com/eveneer-prefinished](http://eltongroup.com/eveneer-prefinished)



## REVIEWS

If you have recommendations for films, books, smartphone apps, podcasts, websites or anything else, email: [sanctuary@renew.org.au](mailto:sanctuary@renew.org.au)

### BOOKS



#### Tasmania Living

Joan-Maree Hargreaves  
& Marita Bullock

Thames & Hudson, 2022

\$70

Content warning: this book may make you want to move to Tassie immediately. Subtitled *Quiet, conscious living in Australia's south*, the coffee-table style volume features 20 projects ranging from restored colonial cottages to modernist homes nestled into their surroundings. Many have beautiful views, and all are somehow imbued with a sense of quiet calm – something that is perhaps a hallmark of exemplary design.

At the smaller end of the scale, an A-frame treehouse in Hobart built by an architect as a hideaway for his kids is absolutely charming; it was created using years of collected timber offcuts, leftovers and would-be waste materials. Just out of the city, another tiny project is a cost-efficient solution to the problem of housing affordability for young couple Millie and Josh. The fully transportable 53-square-metre studio is currently set on Millie's parents' land until the couple can afford a block of their own. Designed with thermal performance in mind, it rates an impressive 8.4 Stars.

Other inspiring projects include a new-build family home on the Tamar River north of Launceston, which utilises reclaimed materials to achieve something of the rustic charm of the old colonial buildings the owners love, with the benefit of modern passive solar design. And nearby on the South Esk River, a pair of pavilions clad in weathering steel cling to their steep, treed site, housing two one-bedroom 'nests' designed as a multipurpose, futureproof home for the owners once their children fly the coop.

Sadly for those (like me) who love to ponder design details, the book does not include plans or elevations. However, detailed stories about the development of each project, materials used, and relationship to site combine with the sumptuous photography to create a very satisfying virtual escape to the southern isle.

Review by Anna Cumming



#### Wildlife of Australia's Great Barrier Reef

Myke Mollard

Woodslane Press,  
2023

\$30

"When you slip beneath the waves and float down onto a healthy coral landscape, it's like nothing else on earth. The shallow coral is a kaleidoscope of colour, teeming with fish darting in and out of coral fingers ... And it's noisy [with] the click and chatter of the fish as they feed."

Myke Mollard is a multi-published author and gifted illustrator. In his most recent book, he turns his talents to the Great Barrier Reef, detailing it in a highly accessible way, from its original formation to the amazing tenants above and below the waves. The book illustrates the jellyfish, coral, nudibranchs, sea fans, sea turtles, octopi (including the super cute Dumbo octopus), nautilus, crabs, seabirds, sharks, whales and more that all play a very important part in the reef's biodiversity and ultimate health.

Each group of creatures has its own double-page spread explaining its importance within the ecosystem. A deeper dive is offered into the various species' characteristics: facts that become all the more compelling when paired with the beautifully vivid and detailed illustrations. The jellyfish illustration depicts almost 30 different species, and the reef fish page a staggering 83; even so, Myke states that this book touches on only three percent of the total species found on the reef!

Advertised as a children's book, I can see this as one for parents (or grandparents) and kids to curl up on the couch with and read together. Good readers and kids who love science and the ocean will find much fascinating detail to discover.

The book is a celebration of what the reef has to offer, but Myke does touch on the reef's current plight in this era of global heating. He's turned it into a game of 'I spy', with clues to the threats faced by the reef hidden in the images; there is a prize for the first person to write to the publishers with a full list of the threats and where they are to be found.

Review by Kara Finlay

**AT A GLANCE**

- *All-electric, small-footprint family home on a modest block*
- *Designed for efficiency and buildability on a budget*
- *Life cycle analysis indicates it's a True Net Zero house*



**HOUSE PROFILE**  
*White Gum Valley, WA*

**WORDS**  
*Anna Cumming*

**PHOTOGRAPHY**  
*Dion Robeson*

# Family focus

**Perth architect Matt Delroy-Carr's family home is a prototype for the sort of compact, efficient, affordable houses he'd like to offer his clients.**



#### AT A GLANCE

- Hempcrete extension adds just 3m<sup>2</sup> to the home's footprint
- Designed for passive solar performance and connection to the garden
- Calm, quiet and thermally comfortable living spaces

At Gwen and Richard's Sydney home, it was out with the old addition and in with the new: a much better designed extension built with hempcrete.



# Back story



The Californian bungalow made its mark in Australia when residential building boomed in the early 20th century. Also known as American Craftsman, the architectural style was seen as ideal for city dwellers who wanted a more modern and informal lifestyle and to embrace the outdoors. Such bungalows remain a common feature of Australian suburbs, with their heritage character contributing to picturesque streetscapes. But as our desire for space and amenity has changed over the decades, many have had extensions tacked onto the back; often poorly designed, these additions can obscure the design intention of the Californian bungalow, with rooms that

are hot in summer and cold in winter, and interiors that are physically and visually disconnected from the garden.

This was the case for Gwen and Richard's classic bungalow in Dulwich Hill, Sydney. Five years after moving in in 2015, they engaged building designer Tracy Graham, director of Connected Design, to improve the back of the house. The existing uninsulated, weatherboard lean-to addition – “a do-it-yourself type renovation,” says Gwen – contained a narrow, poky kitchen and a bathroom off the family room; a separate brick outbuilding housed the laundry. The awkward shape of the rear addition meant that the courtyard got very little sun.

**Facing page** The simple extension is constructed of hempcrete and replaces a series of poorly designed rooms tacked onto the back of Richard and Gwen's beloved Californian bungalow. **Above** Double-glazed tilt-and-turn windows and sliding doors with uPVC frames were chosen for the extension for their thermal performance and low maintenance requirement.

This approach of maximising reuse of the existing built fabric and systems resulted in reduced waste, cost and need for new materials.

Sustainable design features of the project include thermal mass in the concrete slab and double-brick walls of the extension, those high windows to the north-east with shading for summer, a large overhang to shade the west-facing sliding doors and deck, and cross ventilation paths to purge heat. There is also improved roof and wall insulation, double glazing, underfloor hydronic heating powered by heat pump, a ceiling fan, all-electric appliances, and a water-efficient native garden designed by Antony.

Jon's favourite part of the project is the way the materials came together in

the new extension, including the exposed timber rafters and the tan and ochre colours of the kitchen joinery. "Antony and Lizzie have a lot of Indigenous art and we were trying to pick up on some of those tones to warm it up. The space has a really nice feel to it now."

The family are loving their renewed home, which has vastly improved thermal comfort as well as bigger, more flexible spaces, all with no increase in their energy bills. Says Antony, "I think it really has been transformative. We can have friends over much more easily now, and the kids come home from school and they'll sit up at the kitchen bench and have a snack, and then go over to the couch. We're not always tucked away and private; the family is more together." <sup>S</sup>



**Left and above** "The renovated house looks really cool," says Antony. "I still come in and look at it and am slightly surprised that I live here. I'm not a particularly cool person!"

## SPECIFICATIONS

### DESIGNER

Jon Lowe Architect

### BUILDER

Leske Homes

### PROJECT TYPE

Renovation & extension

### LOCATION

Croydon, SA  
(Kaurna Country)

### COST

\$350,000

### SIZE

Original house 126m<sup>2</sup>  
New house 178m<sup>2</sup>  
Deck 22m<sup>2</sup>  
Land 395m<sup>2</sup>

### HOT WATER

– Reclaim Energy CO2 heat pump with 315L tank

### RENEWABLE ENERGY

– 6kW solar PV system

### WATER SAVING

– Water-efficient (WELS 4–6 star) tapware and toilets  
– Existing rainwater tank retained

### PASSIVE DESIGN, HEATING & COOLING

– North-facing clerestory windows to extension with optimal summer shading  
– Large overhang to shade west-facing sliding doors  
– Natural cross ventilation  
– Insulated double-brick walls and concrete slab for thermal mass

### LIGHTING

– LED downlights  
– Lights from Unios and Masson for Light

### ACTIVE HEATING & COOLING

– Thermann X 5kW heat pump hydronic underfloor heating to extension  
– Existing reverse-cycle air conditioners retained  
– Morso Modern 6148 wood heater  
– Big Ass Fans Haiku ceiling fan to living area

### WINDOWS & GLAZING

– New windows and sliding doors: double-glazed with low-e coating in western red cedar frames, from ACT Joinery

### COOKING

– Bosch induction cooktop

### PAINTS, FINISHES & FLOOR COVERINGS

– Dulux exterior and interior paints (low-VOC)  
– Intergrain Ultraclear to exposed rafters

### BUILDING MATERIALS

– Insulated double-brick construction to extension  
– Cladding: painted Scyon Matrix fibre cement sheet and galvanised Custom Orb  
– Colorbond roof  
– Hanson Imagecrete polished concrete slab floor  
– Durra Panel ceiling  
– Glulam timber exposed rafters (FSC-certified)  
– Insulation: Air-Cell Glareshield (R0.2) plus Bradford glasswool blanket (R1.5) to roof, Durra Panel strawboard ceiling panels (R3), Kooltherm cavity board to masonry walls (R2.2)  
– Spotted gum decking

### OTHER ESD FEATURES

– Gas connection abolished as part of the project  
– Owners use public transport and share a car to reduce vehicle ownership

### PREVIOUS FLOOR PLAN



### FINISHED FLOOR PLAN



### LEGEND

- 1 Entry
- 2 Bedroom
- 3 Living
- 4 Kitchen
- 5 Dining
- 6 Bathroom
- 7 Laundry
- 8 Home office
- 9 Guest/activity room
- 10 Deck
- 11 Porch
- 12 Shed



## LINING UP

When it comes to lining your interior walls and ceilings, plasterboard is familiar, quick and cheap. But it's not the only option; building designer Elizabeth Wheeler looks at some alternatives.

**Above** Plywood sheets are currently a popular choice for wall and ceiling linings – go for Australian hoop pine ply for best sustainability, as architects Mihaly Slocombe did for this project on Victoria's Mornington Peninsula, built by Elyte Focus. Image: Emma Cross



## ON THE DRAWING BOARD

### Sizing up sustainable homes?

While going smaller is often seen as a vital part of a sustainable home – and at *Sanctuary* we certainly champion small-footprint builds – in this article, Queensland architect Peter McArdle argues that it's both possible and important to ensure those with the desire and means to build larger homes also embrace sustainable design and energy efficiency.



# Gardens to go



**Jacqui Hagen is a keen gardener who has transformed the gardens of numerous rental properties across Melbourne. She shares some tips and tricks for bringing your garden with you when it's time to move.**

**Left and above** The vegetable garden at Jacqui's rented home in Naarm, Melbourne, before her most recent house move.

Gardening is my greatest anchor to nature's cycles, my best teacher, a salve for my mental health, and the most tangible link to the knowledge of my ancestors. And yet, it is something that periodically brings me great heartbreak. This is because, as a renter, every few years I have had to farewell my carefully tended garden and confront the reality of a new leased home, inevitably featuring compacted soil and overgrown couch grass. It's painful, but after a period of mourning I always roll up my sleeves and start the cycle again.

At the start of Melbourne's long lockdowns I moved to a property with great gardening potential. I threw myself into the task with gusto, and with

stay-at-home orders in place I often gardened from dawn until dusk. It was a complete joy to slowly restore the soil, gradually manage pests using nothing but companion planting, and watch insects and birdlife make a home in my little suburban oasis. I was rewarded with new friends as the garden came to life: I welcomed a Lewin's honeyeater back each spring, cheered on wattlebirds as they won the war against invasive mynas, and was kept company by the hum of bees. I grew food and flowers in abundance.

Within my fence I had everything I needed to keep myself entertained and endlessly learning. I held dear the belief that amid all the chaos that was unfolding around the world, I had the ability to

## DESIGNERS IN PROFILE



### BRETT GRIMLEY

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Building designer

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Ecolibrium Designs

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[ecolibrium.com.au](http://ecolibrium.com.au)

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Works in Queensland

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#### **What kind of house did you grow up in?**

My childhood was spent in a rambling, low-set timber house that was the manager's residence at the Mossman Sugar Mill in far north Queensland. It was too big even for a family of six. The sugarcane harvesting season and the wet season were the main rhythms of life.

#### **What was the first design project you were really proud of?**

My first full house design, in the Currumbin Ecovillage. The sustainable design covenant was extensive and strict but taught me an enormous amount. The only negative comment I got from the client was that they wished they hadn't installed the ceiling fans because they never needed them.

#### **What is your favourite sustainable building and why?**

I'm going to be boring and go with the same house as above, because it taught me so much right at the beginning of my business. I still refer back to the knowledge gained and some of the details we developed for that house. I won regional and state awards for the project, so it was a real kickstart in so many ways.

#### **What's on your drawing board right now?**

We've got a hilltop home for a large family that is modernist-inspired and a lot of design fun. We're also really stepping up our construction methodologies to improve moisture and thermal performance, and even EMF protection from a local communications tower. The client is really on board with trying to create something that is both beautiful and responsible.

#### **Who is your ideal client?**

Our ideal client is simply somebody with a genuine drive to take responsibility for and counter the impact that creating a home will have on the environment in which it sits. If that is the focus, we are off to a good start. Some courage and passion for design is always inspirational too.

#### **What drives you to focus on sustainability in an often reluctant industry?**

I have two young daughters. I have a deep love and regard for this beautiful planet we live on. I have science, permaculture, regenerative design and building biology training. None of those things can be ignored. The challenge at hand brings focus and direction.





# WIN

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**\$6,250**

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