

# MODERN GREEN HOMES Sanctuary

INSIDE ISSUE 22 110+ green products & design tips; Home automation & energy management;  
Smart cooling; Design Workshop: free advice on your home plans

## HERITAGE CHARM

Green retro refits

Eco developments

Composting at work

WIN  
A solar power system  
from Delta Energy

\*Offer open to Australian residents only.

VIC Sustainable  
Designer Directory

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# MODERN GREEN HOMES Sanctuary

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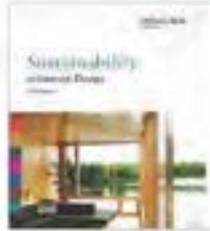


# Reviews

—Books, apps, websites and other interesting stuff

## BOOKS

If you have recommendations for books, smart phone apps, blogs, websites or anything else you think would be of interest, we'd love to hear from you. Email us at [sanctuary@ata.org.au](mailto:sanctuary@ata.org.au)



### SUSTAINABILITY IN INTERIOR DESIGN

Siân Moxon  
Laurence King, 2012  
\$45

Built environments affect both the planet and our health and wellbeing. *Sustainability in Interior Design* takes the reader through a rigorous rundown of how to plan a project and all the issues to be considered regarding energy, water, materials and the construction process. Author Siân Moxon's design background is noticeable – the book is easy to navigate, clear and concise. A good reference book for anyone interested in interior design.



### GREEN ARCHITECTURE NOW! VOL. 2

Philip Jodidio  
Taschen, 2012  
\$90

Taschen is well known for its creative, vibrantly presented, can't-wait-to-turn-the-page books, and the wow factor has certainly been injected into this tri-lingual second volume. Philip Jodidio presents us with examples that put sustainable architecture where it deserves to be: front and centre. From an almost invisible treehouse of glass cubes that slips seamlessly into the forest to a mountaineers' stop-off that seemingly sprouts from the rocky side of Mont Blanc at 3835 metres, any reader will be dazzled.

## APPS



### DIRTGIRL (IPHONE)

[dirtgirlworld.com](http://dirtgirlworld.com): free

The Dirtgirl app is an addition to the popular ABC children's show featuring characters living sustainably and encouraging kids to do the same. The app guides you through the process of growing vegetables – when to plant, water and mulch. You can also buy seeds from Dirtgirl and with them come songs and recipes. This will get your kids (and you) out gardening rather than sitting in front of the TV – plus you'll have delicious organic veggies to eat when you're done.



### MAGICPLAN (IPHONE)

[sensopta.com](http://sensopta.com): \$2.49 per plan

Two-year-old Montreal-based company Sensopta has made drawing floor plans easy with MagicPlan. Walk around snapping pictures of rooms and the app builds the floor plan for you. It uses augmented reality technology to measure points in space and produces plans that can then be merged to generate a jpeg, pdf or DXF floor plan of an entire building. The free version gives you limited watermarked plans for private use or you can register to get shareable versions: \$2.49 for a single plan, \$19.99 for 10 and so on.



### GREENITERS (IPHONE AND ANDROID)

[greeniters.com](http://greeniters.com): free

Here is a social networking app for green innovation and technology. It links into other social networking sites for posts relating to green technologies and sustainability. You can post photos, ideas, questions and more to tap into an 11,500-strong international community doing the same.

 BOOKS
**MY GREEN CITY**

R Klanten, S Ehmann & K. Bolhöfer (eds)  
Flexi/Die Gestalten Verlag, 2011  
\$85

Expect an array of small, creative projects in *My Green City* that inventively bring green spaces into cities. It's a sweet and easy pageturner with inspiring projects to help you re-imagine small urban spaces. From seed bombs and popup vintage plant stores to plants grown inside posters, this book has more than enough to get the creative green juices flowing.

**FIND & KEEP**

Beci Orpin  
Hardie Grant Books, 2012  
\$39.95

Here is a craft book that will inspire a little bit of creative DIY. Beci Orpin takes you on a tour through her studio and inventive world. Projects range from wall murals to picnic fare, all geared to get you crafting on the lounge-room floor.

 DID YOU KNOW?


A fan can make the temperature feel around three degrees cooler.

Sealing out draughts can help keep a home cool in summer.

Painting the roof a light colour will reduce the radiant heat input into a building.

Deciduous plants can provide shade in summer (as well as food).

Sources: Alan Pears, 'Keeping your cool'; p82. Image: Lara Masselos

 WEBSITES
**COMPOST THIS**

[compostthis.co.uk](http://compostthis.co.uk)

It doesn't get much clearer or simpler than this website that asks, "can I compost this?" Alongside bright pictures of household kitchen waste, the question is answered clearly, yes or no. So if you're after some clarity on composting, look no further. Image: Kassner Photography

**AUSTRALIAN CITY FARMS AND COMMUNITY GARDENS NETWORK**

[communitygarden.org.au](http://communitygarden.org.au)

This community garden website is full of resources on how to go about finding and starting a community garden. How-to blog posts in the 'garden to kitchen' section cover all aspects of urban food production from bees to chooks, composts and worms.

**THE GOOD HOOD**

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

Part of Sydney's green villages initiative, the Good Hood lets you share green gotings-on in your household, street and suburb. It's worth taking a look at what people have posted on the map as their projects are fun, creative and use little or no new resources.

# Edwardian charm

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Veggies out front, scooter out back, an eco makeover pays homage to this Melbourne bayside home's past and a more environmentally sustainable present.

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WORDS Sasha Shtargot

PHOTOGRAPHY Rhiannon Slatter

## FOR GEOFF FAGAN, RESTORING AND RENOVATING HIS

Edwardian weatherboard home was like “dressing up a 100-year-old grandmother for a birthday party”. The makeover of the four-bedroom house in the Melbourne bayside suburb of Hampton was designed to give it a modern commitment to energy saving and sustainability, while retaining its heritage charm and quirks.

Traces of uneven skirting board, cracking plaster and a sloping floor despite restumping are just some of the imperfections that hint of the faded glory of this workers' cottage built in 1912. “We like her old lumps and bumps,” Geoff says with a smile.

Geoff, an electrical engineer, and his wife Lindy, an aspiring sculptor, decided to sell their large family home in nearby Sandringham after their four children moved out. They bought the smaller Hampton house two years ago with the aim of tackling a renovation. Initially it was suggested they demolish the house and build a new dwelling, but for the self-described sustainability “fanatics” that would have meant tonnes of materials sent to landfill. It would not do.

Architect Roberta Rees identified the need to widen the passageways to bring more light and air into the house. Bizarrely, in the old design a person opening the front door was

immediately faced with a toilet on their right. The redesign removed this toilet to increase the sense of space in the entrance and added a new bathroom next to the main bedroom.

To make full use of the sunny northwestern side of the house the old kitchen was replaced with a deck, onto which the dining area now opens through double-glazed bifold doors. A former sitting room on the south side of the dining area was taken out and a new kitchen installed. Moving the kitchen from one side of the house to the other was a major plumbing headache but it was important to improve the home's passive performance.

Bifold doors in four places in the new open plan dining, kitchen and lounge create passive cooling through cross-breezes. The couple have barely used their evaporative cooling air conditioner. “We nearly always get sea breezes at the end of the day, even on days of hot northerlies,” Geoff says. To create a cooling microclimate, star jasmine has been planted and trained up trellises along the fences at each side of the house.

A range of sustainable products and features have transformed the house into an energy efficient and comfortable home. The renovation saw a 2.2 kilowatt solar photovoltaic system and a flat-panel solar hot water system installed. For insulation, foam was





→ Geoff and Lindy's front vegetable garden, fed primarily by greywater and rainwater, is a plentiful producer and a talking point for passers-by. The garden complements their renovated and heritage-restored house in a bayside Melbourne suburb.



Windows and bifold doors allow for multiple options for cross ventilation and maximise afternoon sea breezes.

injected through the internal lath and plaster walls so as not to disturb the original weatherboards. Insulation was fitted over the ceiling and insulating foil-polyester sheeting was installed under the wooden floor. The couple also salvaged Baltic pine floorboards from the demolition and reused them in the hallway and family room.

Avoiding energy-hungry slab heating, infra-red lamps were installed in the bathroom. Three natural skylights as well as CFL and LED lighting complement the couple's energy saving efforts. Conscious of enhancing the heritage character of the home, the couple replaced the pressed metal tiles on the roof with reflective zincalume. Inside, they added cornices, ceiling roses and picture rails.

One of Geoff's proudest eco achievements is perhaps one of the least fashionable – the toilet cisterns. In the two toilets the cisterns sit above the ceiling, allowing gravity to do much of the flushing work. Geoff says that a half-flush, described as being "like Niagara", is usually sufficient. Other water saving measures include three 1800-litre rainwater tanks under the rear deck and a greywater system that feeds the garden.

Geoff and Lindy are keen to spread the message of sustainable living. They removed the old concrete driveway to open up the front yard for planting. Now, with bountiful herbs, vegetables and fruit trees in view, their house has become a talking point in the neighbourhood. Passers-by

stop to admire the crops of lettuce, spring onions, broad beans or plums and chat as the couple work in the garden. Lindy, who has created a sculpture of a straw woman reclining on a wheelbarrow on their front deck, says she often puts a bucket of veggies out on the pavement for neighbours to share.

After living in the house for over a year now, Geoff does have a few things he would change were they to do it all over again. In particular, he would invest in a dishwasher and washing machine with hot and cold water inlets so they could connect to the "free" hot water system; skylights in the bathroom would be slightly larger given their placement on the southeast side of the house; and a southwest-facing window in the laundry would be moved to face northwest. Despite these and other "minor niggles", Geoff and Lindy are very happy with the time and money they have invested in their new home. "The liveability here is so fabulous – it's warm in winter and gorgeous in summer," Geoff says. He adds that the total expense of the renovation-restoration of just over \$400,000 is about right because demolishing the house and building a new one would have cost about the same.

Sitting peacefully in her bayside street, there's no question that this 100-year-old Hampton grandmother approves of her new green party dress – as well she might. 🌿



“The northwest-facing deck is ideal for winter lunches or afternoons, or to escape gusty sea breezes; the southwest-facing deck is undercover and ideal for hot summer days,” says homeowner Geoff.

ⓘ A bicycle, or a scooter out back, are Geoff’s preferred transportation methods. A solar PV system and flat panel solar hot water system are placed at the back of the house to conceal them from view from the street. Star jasmine grows on trellises and fruit trees grow at the side and rear boundaries of the house.

This bookshelf near the redesigned home's entry "saves money and trees" says architect Stephanie Skyring, as well as adding storage without increasing the size of the house. The unit is fixed to the wall and designed to take load on itself, making a backing unnecessary and reducing the need for plywood.





# Retrofit with flair

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A Queensland renovation lifts a Brisbane home's energy performance and liveability significantly and sustainably, with just a few changes to the floor plan.

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WORDS Francene Ridley  
PHOTOGRAPHY Lara Masselos

**GILLIAN MOODY THOUGHT SHE WAS PRETTY SAVVY ABOUT SUSTAINABLE** design until she and her husband Warren McGregor renovated their post-war house on 620 square metres in the northern Brisbane suburb of Gaythorne.

Having worked on a Queensland government sustainable living initiative, Gillian felt she was “very aware” of how to make a house more environmentally sound. After the renovation, however, she and Warren realised that green living is about more than simply turning the TV off at the wall and switching to LED lights.

“We didn’t really comprehend how the orientation and layout of the house can make such a difference,” says Gillian. “One of the smartest things you can do is make sure your house is facing the right direction, and if you can’t do that, relocate windows to catch sun and shade.”

Luckily, orientation wasn’t a significant problem architect Stephanie Skyring of Skyring Architects faced when Gillian and Warren asked her to design a better performing house. The property’s north-facing backyard and vegetation providing shade to the west were positive features she could make the most of. It was the home’s dark and poky floor plan that was the main problem. As it was, life for Gillian and Warren was almost unbearable during Brisbane’s stifling sub-tropical summers.

“There was absolutely no cross-ventilation in the house; the walls were in the wrong place and had no insulation,” Gillian says, adding that they had even considered getting an air conditioner despite her strong opinions against them. “We thought we’d have to build a whole new house,” she says, “but Stephanie said we could just reconfigure the original floor plan.”

The main aims of the redesign were to link the living areas to the back northwest-facing deck, improve the layout of the kitchen, give more space to the main bedroom and allow cooling breezes to flow through the house. All this was

achieved with the addition of just 2.2 square metres of floor area and, wherever possible, the reuse of material salvaged from any demolition work, and staying air conditioner free. "I've always been against air-conditioning. Now, I'm even more against it. You just don't need it if the house is designed properly," says Gillian.

"Rather than adding a big extension, we used a simple pop-out to increase the narrow width of the bedroom," explains Stephanie. The pop-out is a contemporary-style bay window clad externally with weatherboards removed from other parts of the house. Another pop-out incorporated into the kitchen opens that side of the house to a more desirable northern aspect. Its window also acts as a servery to the deck where most of the entertaining is done. Meanwhile, relocating doors and windows and removing walls created breeze paths straight through the house, significantly improving air flow.

The kitchen is far more efficient too, says Gillian, but not because there is extra floor area. The redesign shows that knowing how much and what types of spaces you actually need before you start designing is the key. "Stephanie asked us all sorts of questions about what appliances we use and how often," Gillian says. "That meant we incorporated plenty of storage, but only what we needed."

Storage is often an issue in older houses and incorporating it without impinging on already limited space or adding new floor area is an issue with which designers grapple. In response, Stephanie converted a sleep-out into the main bedroom and a walk-in wardrobe. Gillian reports that the robe is a godsend, as is the bookshelf on the wall near the entry. It's a storage solution that's practical as well as an attractive feature, she says. Stephanie adds that the shelves were designed in such a way that they "save money and trees". "The shelves are fixed to the wall for bracing and built from the floor up, so the unit takes the load on itself," she explains. "Because we didn't need plywood for the back, we reduced the amount of material required – and plywood is quite expensive. Also, it gives you the opportunity to paint the wall at the back."

Gillian is also pleased that the energy efficient fluorescent lights – hidden behind pelmets to create an up-lighting effect – have turned out to be an attractive way to illuminate the house. "Standard fluoro lights are very cost-effective compared to 'fashion' lights," Stephanie says. "It's also cost-effective for the builder to construct a pelmet."

For Stephanie, a highlight of the project was being able to follow sustainable design principles without compromising aesthetic appeal. In the kitchen, pendant lights made from recycled or secondhand shades are just one example of her staying true to two important criteria: reducing the amount of new material used while also designing solutions that reflect her clients' creative flair. "Controlling building area is probably the most important aspect of building sustainably," she says. "But I also wanted to make sure the finished home reflected Gillian and Warren's fabulous sense of style and responded to their way of living." ⑤

**"Controlling building area is probably the most important aspect of building sustainably – as well as being cost effective," says architect Stephanie. "The less area you construct, the fewer materials you have to use."**



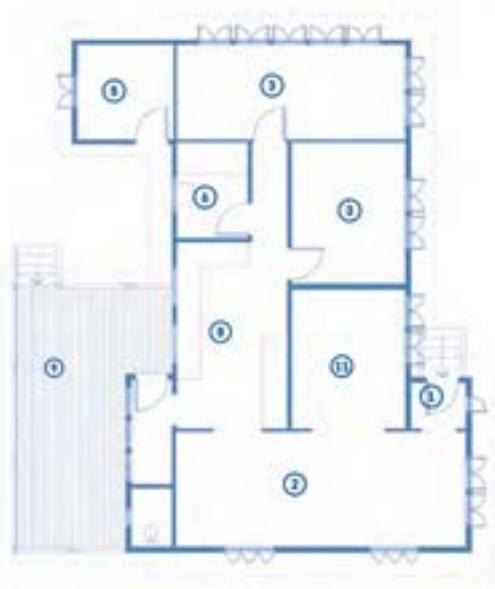
➡ Very low formaldehyde emission (E0) particle board was used for kitchen cabinetry. Low VOC paint is used throughout the house.



➡ The kitchen was moved to the back of the house to take advantage of the block's northern aspect and connect it and the main living space with the deck and backyard. A pop-out window acts as a servery to the deck where most of the entertaining is done.



• A pop-out designed into a renovated sleep-out adds just 2.2 square metres to this Brisbane home's overall footprint but improves functionality. Bulk insulation was added to the walls and ceiling and the existing timber floor was sanded and finished with a low VOC water-based polyurethane.



FLOOR PLAN - BEFORE RENOVATION



FLOOR PLAN - AFTER RENOVATION



- LEGEND**
- ① Entry
  - ② Lounge
  - ③ Bedroom
  - ④ Walk-in robe
  - ⑤ Laundry
  - ⑥ Bathroom
  - ⑦ Toilet
  - ⑧ Kitchen
  - ⑨ Deck
  - ⑩ Study
  - ⑪ Dining



➊ Reusing materials, including timber doors and windows, was an important part of the design and rebuild process. The weatherboards that line the main bedroom's pop-out were salvaged from the demolition of another part of the house.



➋ Compact fluorescent bulbs are used in recycled glass pendant light shades. "They're a very cost-effective way to achieve loads of character," says architect Stephanie.

# Gaythorne residence

—Specifications

## Credits

### DESIGN

Stephanie Skyring,  
Skyring Architects

### BUILDER

Craft Building Company

### PROJECT TYPE

Renovation

### PROJECT LOCATION

Gaythorne, QLD

### COST

\$80,000

### SIZE

Existing house 120 sqm,  
extension 2.2 sqm, land  
615 sqm

## Sustainable Features

### HOT WATER

- Existing electric heat pump retained.

### WATER SAVING

- WELS 4 star Caroma tapware  
- WELS 4 star Fowler Seido toilet.

### PASSIVE DESIGN

- Orientation, room arrangement, doors and windows, shading and insulation improve internal comfort  
- Rooms rearranged to improve pedestrian flows from living areas to the deck and back garden  
- House opened to the north with sliding doors to let northern light in  
- Casement windows and sliding stacker doors positioned to channel breezes into and through the house  
- Louvres positioned to allow the house to be secure but still have effective cross-ventilation at night  
- Shading added to new windows in the bedroom to control sunshine and rain entering the home  
- Bulk insulation added to walls and over ceiling.

### ACTIVE HEATING & COOLING

- Ceiling fans for still days.

### BUILDING MATERIALS

- Existing weatherboards reused  
- The Laminex Group Formica E0 particleboard used for kitchen cabinetry  
- R1.5 Higgins polyester batt insulation added to walls  
- R2.5 Higgins polyester batt insulation added over ceiling.

### WINDOWS & GLAZING

- New Residential Series aluminium glazing - including stacker doors, double hung windows and louvres to living space, and sliders and double hung windows to the new pop-out wall in the bedroom - by Trend Windows & Doors  
- Existing timber doors and windows retained from demolition and reused  
- Recycled retro door handles from Victorian Living, Red Hill.

### LIGHTING

- New lighting from Milton Lighting, including:  
- Fluorescent battens designed into pelmets for gentle up-lighting  
- Compact fluorescent light bulbs  
- Recycled glass pendant light shades from Victorian Living with compact fluorescent bulbs. "They're a very cost effective way to achieve loads of character," says architect Stephanie.

### PAINTS, FINISHES & FLOOR COVERINGS

- Existing timber floor sanded and finished with water-based Bona Mega satin finish  
- Resene low VOC paints used internally and externally.

### OTHER ESD FEATURES

- In total only 2.2 square metres were added to the existing house.



The redesign brings natural light into what the owners describe as a previously "dark and poky" house. Improved breeze paths through the house mean there's no need for air-conditioning. Louvre windows were positioned to allow the house to be secure yet still have effective cross ventilation at night or when the owners are out. A ceiling fan is the only active cooling.



• A large northeast-facing deck extends the main living/dining wing into the garden. The deck looks out to a mature stand of native trees.

# Japan inspired

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A Japanese-influenced and passively designed house in Hamilton, New Zealand, seeks to cross cultural borders.

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WORDS Sarah Robertson  
PHOTOGRAPHY Angela Keoghan

**FUSING THEIR NEW ZEALAND AND JAPANESE HERITAGE WITH** their commitment to sustainable living, New Zealand designer Nathan Edmondston and his wife Yuki Fukuda are finally living in a home that reflects who they are.

“Japanese traditional architecture has had an influence in New Zealand house design for over half a century,” explains Nathan. “Our challenge was to create a building that subtly referenced these traditional ideas whilst maintaining an understanding of its New Zealand context.” The couple spent three weeks researching architecture and garden design in Japan. Nathan and his colleagues at MOAA Architects then set to work integrating Japanese influences into the house’s design. The result is a neat three-bedroom home that replicates traditional Japanese timber and tatami mat homes. “It’s amazing to be able to live in a house with a Japanese touch while living in New Zealand,” says Yuki.

The house is comprised of two parallel rectangular wings. An open plan kitchen, living and tatami-mat dining area, an entry and toilet

make up the first wing while in the second there are three bedrooms and a bathroom. A large northeast-facing deck extends the main living and dining wing out into the garden. A small study – a bathroom and laundry tucked in behind – connects the two wings.

With the tatami mats down, the raised dining (or sleeping) area is distinctly Japanese, albeit with the hidden practical twist of 10 square metres of storage space beneath. The Japanese use space wisely, Nathan says, adding that although their house is a modest 133 square metres it would be considered luxurious in Japan. Hidden storage is built into other parts of the house, too. Under the deck there is 20 square metres of storage space for wood, Nathan and Yuki’s main source of fuel.

With its natural timber ceiling and floors contrasting pleasantly with brightly coloured walls and contemplative spaces, Yuki and Nathan’s house wasn’t only designed to be aesthetically pleasing. It’s also a highly sustainable and virtually airtight home. There aren’t many sustainable houses built in the Waikato region so the firm took the opportunity





Development of 290 households at Beyond Today, an eco development on the Fleurieu Peninsula south of Adelaide, South Australia, seeks to improve the natural environment rather than disturb it.

# Eco developments

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A selection of developers are thinking big and delivering the next and more sustainable generation of house and land packages. Sasha Shtargot looks at what Australia's newest eco developments have to offer.

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Eco developments are “incredibly important” to demonstrate that well-designed environmentally sustainable housing is achievable and affordable, says developer Adam Wright.



This Yagoi 100 house at The Ecovillage at Currumbin, Queensland, incorporates recycled materials, including old tram tracks, hardwood doors and bridge timbers. Image: Ben O’Callaghan

**FROM THE AGE OF SEVEN, BRENDAN CONDON SPENT MANY** of his family holidays by the beach at Cape Paterson, Victoria. So it was little wonder the environmentalist and entrepreneur turned to the windswept rocky headland 140 kilometres southeast of Melbourne when he contemplated an ideal location for his most challenging business venture yet.

Building will start in mid 2013 on the 40-hectare Cape Paterson Ecovillage, of which Condon – alongside Mike O’Mullane – is a director. The 220 houses on-site will each have a minimum 7.5 Star energy rating, a 2.5 kilowatt solar power system, a 10,000 litre rainwater tank, solar hot water, high levels of insulation and thermal mass. They are expected to use 70 per cent less energy than conventional all-electric houses. At the community level, the development will capture and reuse stormwater, generate clean energy to drive electric vehicles, and include community food gardens as well as kilometres of paths through revegetated bushland. Electric vehicles are a key part of the development, with charging stations and an electric car share scheme operated by an owners’ corporation.

Cape Paterson is one example of numerous eco developments setting new benchmarks for sustainable living. Often spearheaded by environmentally conscious entrepreneurs or families, they typically consist of homes with significant green credentials and are located in integrated community and nature settings. In the past few years, Lochiel Park in suburban Adelaide, The Ecovillage at Currumbin in the Gold Coast hinterland and Beyond Today at Hayborough in South Australia have established themselves. Currently in planning are the Narara Ecovillage on the New South Wales Central

Coast and Mullum Creek at Donvale in Melbourne’s northeast. Meanwhile, cutting edge urban sustainable developments include The Commons in Melbourne and the established Christie Walk in Adelaide [Ed note: See *Sanctuary 19* for more about The Commons].

Rather than niche developments for converted greenies, these new eco developments are overwhelmingly driven by a desire to create models for all future housing; most aim to demonstrate how household costs can be reduced and living standards improved at a time of high utility charges and climate change.

Adam Wright, whose family is behind South Australia’s Beyond Today, believes a development need not harm its surrounding environment but can actually improve it. When completed, he expects the community of about 290 households to be close to carbon neutral as a result of 250,000 trees planted on the site. Landscaped reserves, parks and wetlands make up 47 per cent of the Beyond Today residential area. At Cape Paterson, Condon plans to restore much of the former degraded farmland of the site to heath, banksia woodland and wetlands. Meanwhile, at the Mullum Creek eco development in Donvale, nearly half the property will become a reserve for wildlife, walkers and cyclists, linking two popular bush trails. At Currumbin, 80 per cent of the site is open space.

Condon believes housing and energy use need to change drastically in an era of climate change. “Design and build something that works a lot better than the status quo and people will experience it, understand and support it,” he says. “This will generate momentum faster than lecturing people from a soap box or being an armchair critic. →



At Mullum Creek, an eco development planned for a northeastern suburb of Melbourne, nearly half the property will become a reserve for wildlife, walkers and cyclists. Image: Jules Tahan, UA Creative




 Mullum Creek. Image: Jules Tahan, UA Creative

“Ecovillages can be laboratories where the innovators push the margin, incubating and testing out new emerging solutions to sustainability problems,” he adds. He points to innovations like sustainable building techniques, stormwater capture and reuse, innovative food production techniques, worm farming and car-share schemes emerging from small environmentally-minded communities in the past 20 years.

Danny Mathews of Mullum Creek is adamant that environmental concerns need to inform the mainstream housing industry. “Good design will give greater comfort, amenity, and reduced running costs for homes and their occupants, and help individuals – through their housing choices – make a personal impact on reducing climate change,” he says.

Eco developments are “incredibly important”, adds Wright, to demonstrate that well-designed environmentally sustainable housing is achievable and affordable. [Ed note: House and land packages were selling for under \$400,000 at Beyond Today at the time of publication]. Meanwhile, a 2012 study prepared for the Cape Paterson Partnership and backed by Sustainability Victoria found that building to a 7.5 Star standard, using only solar power, high efficiency appliances, water from a 10,000-litre tank and an electric vehicle

could save households more than \$300,000 and take eight years off a typical mortgage.

Wright says eco developments also illustrate the importance of whole developments being sustainable, rather than just individual suburban homes. “Protection from overshadowing in winter from neighbours or vegetation, establishing microclimates to draw from, providing good access to breezes for ventilation, [and] establishing perfect orientation of sites are all important aspects that protect the integrity of the design to ensure it functions as planned for [its] entirety,” he says. “Standard planning and construction laws do not provide this level of protection to households and therefore the perfect design can be adversely impacted by what happens around it.”

So who is moving into these developments? Condon says Cape Paterson has attracted a cross-section of interest from local families, retirees, tradespeople and professionals. He believes the key to attracting people from a broad range of incomes is clever design that reduces the typical expense of sustainable homes.

Beyond Today has an above-average baby boomer demographic reflecting the fact that the area is a popular retirement destination. Though new developments usually attract about 75 per cent of new residents from within a 15 kilometre radius, at Beyond Today only



Ⓢ Houses at the Cape Paterson Ecovillage all achieve 7.5 Star energy ratings, include solar energy systems, efficient appliances and 10,000 litres of rainwater storage. Left to right: A 7.7 Star design by Adam Detrick Architect, a four-bedroom house by Beaumont Concepts, and a three-bedroom plus study home by DKO Architects.

one-third are locals, one-third are from Adelaide and surrounds, and the rest are from regional South Australia, interstate and overseas. Wright believes the uniqueness of the development has meant it has had strong interest during tough times for the real estate industry.

Educating builders to work sustainably, to improve their construction and clean site habits, has been the biggest development hurdle for Beyond Today, says Wright. Cape Paterson faced an arduous 10-year design and planning approval process, including opposition from a local anti-development group and initial rejection by council, costing several million dollars. The planning process, which Condon describes as "glacial", made him pessimistic about society's ability to move quickly to avert the big challenges of climate change, peak oil and food scarcity. Mulhum Creek also faced a long delay as some locals and councillors fought the development's plans to have smaller than average lots for the area.

Despite his long journey, Condon is thrilled that after so many years of planning, research and lobbying the first sod will finally be turned at Cape Paterson this year. "As more of these working examples are built, people will be demanding better design that future-proofs their community," he says. Ⓢ

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