

LOOK HOME

ISSUE 7 / 2009

INSIDE: AFFORDABLE HOUSING REVEALED

MEET THE
BRAINS BEHIND
THE SOLUTION

WHAT'S THE
RECIPE FOR
LOW-WASTE
BUILDING?

THE SMALL
HOME MINI
ISSUE



THE SMARTER SMALL HOME

STYLISH. LIVEABLE. VERY AFFORDABLE.



SNEAK PEEK
How to count
the carbon in
your home



LOOKHOME

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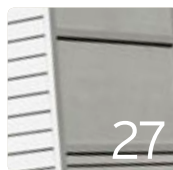
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WELCOME HOME

CREATING DREAM HOMES AND communities can be a journey that's filled with excitement but it's also potentially fraught with difficulties. While dreaming up images of beautiful spaces and welcoming rooms is easy, it can be a challenge turning this into reality. In recent years, this has been made increasingly hard with rising home and land prices.

The problem of housing affordability in Australia is a real one – and many of you want to know if there is a light on the horizon. Thanks to the feedback

we received from many readers in our recent survey, we know that you want sustainable home ideas that minimise impact on the environment. You also want beautiful homes that you can afford. We reveal one great option.

In this special issue of *LookHome™*, we look at an affordable, stylish and sustainable solution: The Smarter Small Home™.

We'll take you behind the scenes to look at all the ways this home has been designed and built a smarter way. We'll look at energy, carbon footprint, and of course, costs.

We'll compare it to traditional ways of building. Most of all though, we'll show how this home delivers the desires of many Australians – affordably. Let's face it, most of us love the outdoors and backyard barbecues, but we also want family rooms that are home to the Xbox and plasma TV. The Smarter Small Home takes all of this into account, while keeping a firm lid on costs.

Join us in exploring The Smarter Small Home. You can use some of the ideas in your own home and create a space that's truly affordable, sustainable – and livable. [LH](#)





FADING DREAM?

An increasing number of Australians are finding it hard to afford their own home. Will home ownership become a thing of the past – or is there a viable solution?

WORDS VALERIE KHOO



*It's a paradox
that we can
be short of
land. But the
reality is that
population and
immigration
is rising.*

IT ALL COMES DOWN TO SIMPLE economics. Housing prices are high because demand outstrips supply. That's the core of the problem. But when you peel back the layers to analyse the issue of housing affordability in Australia, there lies a complex web of drivers that range from changing demographics and lack of infrastructure to complex planning laws hindering progress and innovation.

There have been numerous studies and reports on housing affordability in Australia. While they may use different standards to measure affordability, the results are the same. There's a problem – and it's not getting better.

The Senate report 'A good house is hard to find: Housing affordability in Australia' was released by the Senate Select Committee on Housing Affordability in Australia in June 2008. Citing figures from the Australian Bureau of Statistics, the report stated that house

prices have increased markedly in recent years, by much more than consumer prices or incomes.

It states the average house price in the capital cities is now equivalent to more than seven years of average earnings. The equivalent figure from the 1950s to the early 1980s is three years of average earnings.

The Affordability Index compiled by the Commonwealth Bank and the Housing Industry Association (which also takes into account interest rate levels) shows the index has recently reached its lowest points (of affordability) in the 24 years for which it's been compiled.

Another benchmark used to measure housing stress, both in Australia and overseas, is known as the 'Ontario measure' or the '30/40 rule'. This restricts the measurement to households in the lowest 40% of income distribution that are paying more than 30% of income

In the 1990s, Australian families have seen the rise of the McMansion (right), overly large homes that maximise use of lot size.



on housing. According to the Senate report: "On this definition, it is estimated that there are now over one million low and middle income families and singles in housing stress. This represents about 10% of the population.

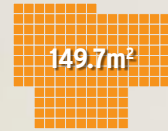
These are just some of the indicators confirming the crisis in housing affordability. So what are the key drivers that impact the issue?

DEMAND AND SUPPLY

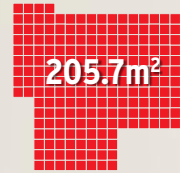
In a country as huge as Australia, it's a paradox that we can be short of land. But the reality is that population and immigration is rising. Demand has also been driven by factors such as:

- **Easier access to credit.** The low interest rates that pervaded the late 1990s and the rise of non-bank lenders (such as Aussie Home Loans and Wizard) boosted buying power for consumers, driving up demand.
- **Changing demographics.** In the meantime, typical family households from generations ago have given way to fewer children, single people staying unmarried for longer and a greater incidence of divorce. Quite simply, more homes are now needed to accommodate what was once a single household.
- **Government incentives.** State and federal schemes to assist home buyers – such as the First Home Owners Grant – have also helped drive demand.
- **A penchant for bigger homes.** According to the Australian Bureau of Statistics Year Book Australia, 2005, there has been an increase in the size of new residential buildings. These figures show that the average floor area of new residential buildings increased by 37.4% (from 149.7m² to 205.7m²) between 1984 to 1995 and 2002 to 2003. ⇨

SIZE OF NEW RESIDENTIAL BUILDINGS (FLOOR AREA)



1984-1995



2002-2003

Source: Australian Bureau of Statistics, 2005.





Top: By 2026, one- and two-person households will be recognised as the demographic mainstream. Above: Low interest rates in the 1990s drove up demand for houses as auctions became buying frenzies.

This trend is evidenced in the rise of McMansions – a term coined in the 1990s to describe homes typically larger than average and often built to maximise as much lot space as possible.

Despite this trend towards bigger homes, social researcher Hugh Mackay points out in *The Sydney Morning Herald* (February 23, 2008): “we’re now a society in which solo households outnumber those where couples live with their children. ... By [2026] about 35% of all Australian households will contain only one person, and the one- and two-person household will be recognised for what it is: the demographic mainstream. ... The shrinking household means that houses themselves will eventually have to change, although there’s not much sign of that yet: as our households become smaller, our houses continue to expand, partly because so many of us are still committed to the idea that home ownership is a good

investment: more of it must be better.”

While there is no shortage of demand, the opposite is true for supply. According to the Senate report, there are several factors limiting supply.

COMPLEX STATE AND LOCAL GOVERNMENT PLANNING PROCESSES

The report states these are “too complex and often involve long delays and high costs”. The Senate Select Committee on Housing Affordability in Australia goes so far as to suggest that swift reforms are needed. “The state governments should reform and simplify their planning processes so that local governments can process planning applications quickly.”

INFRASTRUCTURE CHARGES

You can’t create a livable community without substantial infrastructure. Demographer Bernard Salt writes in



The Australian (August 7, 2008): "To significantly lift the supply of affordable dwellings requires investment in urban infrastructure such as public transport. The reason is that affordable and developable tracts of land on the edge of capital cities that could make a difference to supply and affordability are located beyond the city limits.

"Perhaps the reason why previous generations could deliver affordable housing was because at that time there was not the public consciousness and concern about car usage and the provision of associated urban services."

However, it's not just the existence or creation of infrastructure that is at the core of the issue. It's also about who pays for it. The Senate report makes the point that previously, infrastructure was typically paid by local and state governments out of rates and taxation revenue. Furthermore, it was often

installed after residents had moved in.

It goes on to state: "Now, the infrastructure is installed as the land is developed and is increasingly being funded by specific charges on developers. These charges are significantly higher in New South Wales ... and may be significantly reducing the supply of land for housing in that state."

INCOME HASN'T CAUGHT UP

AMP and the National Centre for Social and Economic Modelling (NATSEM) released research (March 2008) on trends in housing affordability and housing stress, 1995/96 to 2005/06. The report 'Wherever I lay my debt, that's my home' revealed that while property prices have jumped 400% since 1986, income has only increased by 120%.

It also indicates that housing affordability (or lack of it) is, unsurprisingly, linked with housing stress. "One of the ⇒

As our households become smaller, our houses continue to expand, partly because so many of us are still committed to the idea that home ownership is a good investment: more of it must be better.

Future generations of Australians will be less likely to enter their old age with the mortgage paid off and their home underpinning their financial security in retirement.

striking results from this report is the number of first home buyers in housing stress," states the report. "Nearly two-thirds (61.7%) of first home buyers are in housing stress. This is the sting in the tail of the recent housing boom ...

"The mortgage noose now remains around the household neck for much longer periods of time, with those in their late 40s, 50s and 60s now being much more likely to still be paying off the mortgage than Australians of the same age a decade ago. If these trends continue, future generations of Australians will be less likely to enter their old age with the mortgage paid off and their home underpinning their financial security in retirement."

TO SPRAWL OR NOT TO SPRAWL

An obvious answer to the housing affordability crisis is to allow cities to grow and sprawl ever outward. There are

those for and against this solution. *Urban* magazine cites Professor Peter Newman, director of the Institute for Sustainability and Technology Policy at Murdoch University in Western Australia, explaining that sprawling cities are not the solution.

"The more sprawl the city has, the higher the household expenditure on transport," Newman is quoted in *Urban*. "You see it here in Australia on the urban fringe, where poor families are hit by transport costs. Building freeways is the problem, not the solution."

Newman provides Houston and Dallas in Texas as examples of sprawl that has spread so far that "people now spend more on transport than on shelter".

The Senate report also points out: "The way to improve housing affordability is not to build cheap houses on the outskirts of cities away from employment, services and public transport links. This simply shifts costs from housing



to the cost – in dollars and time – of transport. Rather, the aim must be to build affordable housing in areas where infrastructure can provide for and attract new residents."

IT TAKES A VILLAGE

In contrast to the idea of increasingly isolated suburbs, there are those who are advocates of a return to community living. This concept underpins the New Urbanism movement, which originally stemmed from the US and gained prominence in the 1980s.

It encouraged the creation of walkable communities, accessible public spaces, and featured a range of housing types – to suit different demographic groups – and created local jobs.

As social researcher and author of *Advance Australia ... Where?* Hugh Mackay wrote in *The Sydney Morning Herald*: "If we are to take housing more seriously

we need to take the meaning of home more seriously, too. That means paying more attention to the need for people to connect; the need to build communities; the need to develop civic pride ...

"We've always assumed the Great Australian Dream was about owning your own home on a suburban quarter-acre. While that version of the dream persists for many of us, the dream was always about creating a particular way of life in a particular kind of community, and those aspirations are changing."

So the challenge is to be able to fulfil this dream in a climate undergoing an economic downturn and housing crisis while catering to the diverse – yet unique – needs of Australian home owners. It can be done. Over the following pages, you'll discover an innovative housing solution that is a first step towards addressing the housing crisis in Australia. And the best part is, this is only the beginning. [u](#)



STATE OF SHOCK

According to the AMP/NATSEM report on housing affordability between 1996 and 2006, all Australian states experienced significant drops in housing affordability. It states:

- New South Wales is Australia's least affordable state, with homes costing 8.3 times annual disposable household income in 2006, up almost 40% on 1996 figures, while the Northern Territory is the easiest place to buy a house, with house prices just five times median disposable income.
- Western Australia wasn't far behind New South Wales, with housing unaffordability increasing 63% to 7.45 times annual disposable income, while Tasmania saw the biggest jump, up 65% to 6.1 times annual disposable income.



New Urbanism sees a shift away from cookie-cutter housing to livable communities where people are encouraged to interact.

AN INNOVATIVE JOURNEY

The Smarter Small Home™ is the result of years of research, a meeting of minds and a duo who relished the challenge of finding an affordable housing solution.



WHEN KEVIN DOODNEY LOOKED AT housing affordability problem in Australia, he knew there had to be a solution. But with over 30 years' experience in property and real estate, Doodney knew complex planning laws and regulations could hinder innovation in solving the issue.

"As a nation, our home-owner habits developed when land wasn't an issue and we were sold on this idea that bigger is better. I can't understand why we keep building these massive houses with room for two and three cars," says Doodney, who heads up LJ Hooker Land Marketing and is former chief executive officer of the Australian Institute of Property Management. "Anyone who tries to build something smaller typically makes it box-like and ugly. People today do not want to buy something ugly."

So he embarked on an international study to find an answer that would work

home, which they defined as one costing less than \$300,000 for house and land package. With land often representing at least half the total cost of a home and land package, Doodney knew that a small lot size was crucial. He decided on a lot size of 10 metres by 30 metres; the challenge was to design a livable, stylish and sustainable home on it. "

He believes The Smarter Small Home project is set to be a turning point for housing affordability in Australia. "We are showing people that you don't need to sacrifice livability and sustainability to achieve affordability," he says.

The project isn't just a smart innovation on a set of architectural blueprints, however. It's become reality. In an aircraft hangar in Meeandah, a suburb close to Brisbane airport, the house has been built.

When Doodney was looking for a factory in which to build the home,

As a nation, our home-owner habits developed when land wasn't an issue and we were sold on this idea that bigger is better.

in Australia. Doodney says a catalyst in this journey was when he visited the US as a member of the James Hardie 'Living Benchmarks' Streetscapes tour. The tour was created primarily for Australian developers and planners to experience firsthand some of the benchmark livable neighbourhoods and high-density, mixed use urban residential districts in the US.

BUILD FOR YOUR TRIBE

"Then I spent the next few years looking at affordable housing across the world, visiting and studying places like Italy, London and Paris," he says. "I realised that, in Australia, we needed to tribalise it. We had to find a solution that would suit our lifestyle and expectations. We couldn't just transplant a solution from another country. It wouldn't work."

Doodney identified a host of factors that would be needed for the solution to work. The goal was to build an affordable

he immediately thought of James Hardie. After all, its study tour was the catalyst for the idea. James Hardie agreed to not only supply a hangar free for 12 months – two months for the build and the remainder for demonstration – it also offered marketing support and any products the designers wanted to use from the James Hardie and Scyon™ range.

Why build it in an aircraft hangar? New home building ideas can sometimes be stalled when it comes to actually constructing the home. This is because, when you build a home, your plans – particularly any innovative concepts – have to go through a council's strict building regulations. Doodney points out it can take five years or longer to get approval.

Building it in a hangar – where you don't have to wait for council approval – meant the result could be showcased immediately. "We're inviting council ⇒

THE SMARTER SMALLER HOME IS JUST THE BEGINNING. IMAGINE ...

THE JUST-ME HOME

Designed for a young couple just starting out, a couple just retiring, or even a single person. This compact 52 square metre design will feature one bedroom with lounge, dining and kitchen, a two-way bathroom, balcony, and, to top it off, a green roof garden.

THE EXTENDABLE HOME

Designed for a young couple planning a family in the future, its key feature is that the existing 100 square metre living area can be easily extended when the time is right, with another 100 square metres upstairs, pre-approved by council and designed to be built in a way that doesn't disturb the landscape.

THE ENTERTAINER

Designed for party lovers, this design features a media room and loads of undercover outdoor areas in 170 square metres.



The Smarter Small Home is ideal for Aussie traditions of backyard cricket and outdoor barbecues.



I believe that too many people try to tackle affordability with a low set (single-storey) solution – but that uses up the backyard.

planners, developers and builders to see the result," he says. "Keep an open mind to what we've created and see if this suits your village. If not, ask yourself what does? Use this as a discussion point to create well-informed outcomes. It's not a one-size-fits-all solution, it's a demonstration. It may not be the only answer – but it's definitely a start."

WORKING TOGETHER

Doodney believes it's important to work together with council planners and elected councils to explore what's possible. He points out that many council regulations and building guidelines have developed over a historical period forming a "book of rules" which can also vary greatly between councils. "Often, if a new building idea is put forward, they have to refer to the rule book. And if it's different to the rule book, then it's stopped. But that's like studying the teachings of the old testament when we need to be looking at the new one."

Doodney sees this as an important step in housing innovation in Australia. "It's frustrating to know that, in one industry, you can move from the record player to the CD player and then the iPod," he says. "But in the housing industry there have been no significant change since the 1970s."

To realise his vision, Doodney called on the skills of designer Brett Blacklow to create The Smarter Small Home. The duo met 15 years ago and have since collaborated on numerous projects.

Blacklow studied architecture at Queensland University of Technology and supported himself while at university working for a builder. The experience gave him a unique insight into the way volume builders run their businesses as well as the cost and product constraints involved.

"Most architects have no really solid understanding of how a building goes together; so it was probably the most important thing I did," Blacklow says. "It gave me a really good understanding of where the money went.



It also strengthened the link between architecture and construction – it helped me focus on what a builder needs and to think across the chasm. In this industry, people typically pick one side and stay there, throwing stones at the other side!"

UNIQUELY AUSTRALIAN

Together, Doodney and Blacklow have created an affordable home that, although small, still incorporates all the elements of a home demanded by many Australians.

The backyard: Backyard cricket wouldn't be the same without ... a backyard. With a lot of only 300 square metres, The Smarter Small Home is built over two storeys on about 65 square metres. After allowing for front and side setbacks that means the backyard is about 120 square metres. "When you have two storeys, you use up less land," says Doodney. "I believe that too many people try to tackle affordability with a low set (single-storey) solution – but that uses up the backyard."

Professor Tony Hall from Griffith University has been researching the



disappearance of backyards from new Australian homes over the past 10 years and, with it, the increase in poorly designed houses that lack natural light and maximise floor space.

Hall says we need a campaign to save "the real Australian lifestyle". The answer isn't necessarily bigger lots. "You could double the Australian housing density [per hectare] and save your backyard by making the front yard smaller and building two storeys," he says.

The indoor-outdoor home: "We've stuck Jamie Durie in there!" says Doodney, referring to the Australian celebrity landscaper, an advocate of "The Outdoor Room".

"Other cultures shut their houses down but we know Australians like loads of natural light. There is also room for the plasma TV, but it's situated so that you can see it from outside the home. That means you can have a drink outside and still watch the footy."


Energy-efficient: Doodney says his goal was to create a home with a low carbon footprint. The home incorporates smart passive heating/cooling strategies,

such as cross ventilation and sliding doors that open on the outside of the house (thus doubling the opening compared to if it slid open on the inside). "It also has a single switch that turns off all stand-by appliances so that you only have to flick one switch when you leave the home," says Doodney. "We've also incorporated indicators on switches that can tell you when you are in off-peak electricity. Humans need reminders and this helps you figure out it's a good time to use your washing machine. It also saves on your energy bill."

Australian-made: "Importantly, Australians want their products to be made here. They want real people to create it – a carpenter, a roofer, a builder. It gives their home a sense of inheritance. They don't want a house that comes in a box from a factory."

Low wastage: Accordingly to Doodney, when you build a home, 5% of the cost of the home is typically wasted in materials. "We decided to build the home to a grid so we've reduced waste significantly," he says. "Many home builders design the home and then cut the products to fit. We've worked the other way around, we've factored in the size of the products first – that means less of it goes in the bin."

The above are just some examples of the innovative ideas found in The Smarter Small Home. "Good design is just brainpower," says Blacklow. "We've got the best brains in the business collaborating on this and future projects. We made a commitment that we wanted to make a difference to the industry, to do something significant, and this is just the beginning."

Doodney says that he knows this house will sell. "Every vendor I have shown this home to wants one. This is what people want to buy and that's the clincher. It is a demonstration in affordability, and I dare you to improve on this," he challenges. "Don't tell us what we have done wrong with this home. Tell me how we can make the next one even better." 



Brett Blacklow

DYNAMIC DUO

Brett Blacklow is the Director of Earth Spirit Home, an architecture and construction company he founded in 2002. Having studied architecture at QUT in the late 1980s, his early career was spent in the trenches, working for a medium-sized project builder.

Kevin Doodney is the Director of LJ Hooker Land Marketing Queensland. With a real estate career spanning 30 years, he has blitzed the sales for LJ Hooker nationally achieving Top Salesperson for eight years running. He has also successfully re-designed and regenerated ailing residential estates throughout south-east Queensland on behalf of financiers.



Kevin Doodney

INTRODUCING ... **THE SMARTER SMALL HOME**

A small lot, small house, smart choice of materials and an efficient construction method are the key ingredients in delivering a home that stylish, sustainable – and **very** affordable.



WHEN DESIGNER BRETT BLACKLOW sat down with project instigator Kevin Doodney to try to create the archetypal affordable home, he didn't begin with the home itself. Instead, it was the size of the lot that was his first consideration. As the cost of land is often at least half the cost of a total house and land package, both Blacklow and Doodney knew that to deliver an affordable housing product,

they needed to make the land size small.

The decision to create a lot 10 metres wide by 30 metres long set up a series of design constraints; they became a design problem that Blacklow and his team needed to solve. For example, having the smallest block of land meant that the home really had to be a two-storey house.

"Generally doing a three-bedroom, two-storey house isn't a wise decision," ⇒



SHOW ME THE MONEY

Blacklow is well qualified to assess the real costs of construction. When he added up the bill to construct The Smarter Small Home™, the total was about \$127,583 excluding the GST. With GST, the cost was just over \$140,000.

Blacklow then calculated the cost to build the home substituting the James Hardie products with timber weatherboards and flat sheet ply cladding. He then did another calculation, substituting the piers with an 'M' class concrete slab on flat ground, brick veneer walls instead of lightweight cladding, and a pitched concrete tiled roof using standard roof trusses. The total costs were \$150,808 and \$166,261 respectively, including GST.

Of course, as with any costing analysis of this kind, the primary intent is to illustrate in broad terms relative costs between different construction methods. Actual costs would depend on many factors, including individual building firms' designs, locations and supply agreements.

Blacklow outlined these drivers of cost variances:

- **Quick and efficient installation with screw-in footings.** The slab on ground requires a level pad, whereas the raised house can be built over a small fall without

CONTINUED OPPOSITE ➡

Blacklow says. "There's more surface area on the outside of the house, so there's more scaffolding and it will take longer and cost more money [than a single-storey home]." However the land saving is so significant, Blacklow and Doodney felt that with some thoughtful design, the additional costs would be offset.

SMARTER PRODUCT SELECTION – THE ROOF

Blacklow says that careful product selection helped claw back costs – particularly when running and maintenance costs were thrown into the mix. While the actual sale price of the home was the first key thing to get right, it was also important to ensure lower life cycle costs as well.

Often, time is money, so the speed of construction also drove product decisions. The team was always thinking of products that could be installed and simply finished;

joists or the traditional slab on ground. These screw-in piers are typically installed in just half a day and, at this point, the foundations are finished. No bulk earthworks are needed.

Blacklow says the type of land available in developers' land banks was a consideration when choosing the way the sub-floor would be constructed. Much of the land in many areas of south-east Queensland and some parts of Sydney and NSW is sloping. In other places, like Perth, for example, the soil on land available for development is considered reactive.

A senior project designer with Land and Housing Development in the Western Australian Department of Housing and Works says that more difficult sites are now over-represented relative to the flat sandy sites that are traditionally preferred for development.

While the actual sale price of the home was the first key thing to get right, it was also important to ensure lower life cycle costs.

ones that involved the least number of construction layers. For example, Blacklow chose an all-in-one Bondor sandwich panel for the roof, which meant the roof was fully installed in half a day.

"One product turns up to site," he says. "When it's finished we have our roof structure, insulation, sheeting, ceiling structure and finished ceiling. Instead of having a scaffold up for two or three weeks, it's all done in half a day."

Using the Bondor panel didn't inhibit design options either. While there are some span constraints to consider, the panel can be used on anything from an almost flat roof to one with a steep pitch.

SMARTER PRODUCT SELECTION – THE SUB-FLOOR

At the opposite end of the building – the ground – another smart product choice was made. Twenty-two steel screw-in piers were used instead of brick piers and

As a result, site costs for fill and retaining are anywhere from \$15,000 to \$20,000 per lot and "will play an increasing part in the future," he says. Elsewhere in the country, builders frequently tell developers and consumers that to build on sloping sites will cost 'thirty grand extra'. They arrive at this cost very roughly with an approach based on using a concrete slab.

Blacklow believes that the industry has been building the same way for two or three hundred years and that it's really hard to change people's thinking. "While screw-in piers have been around for ages, hardly anyone uses them," he says. "The beauty of them is that we don't have to come out and make a flat area and we don't have to dig or pour footings and box up the slab. We just screw these things into the ground, we put the posts on that afternoon, and on day two we start installing the floor framing." ➡



The first Smarter Small Home has been built in a hangar in QLD. It has achieved a 5.5 star rating, modelled with the BERS Pro 4.1 in Climate Zone 2.



CONTINUED

incurring any real extra cost. That's because the screw-in footings don't require excavation and don't produce a big pile of excess soil that needs to be dumped or spread over the remainder of the site. In addition, installing the screw-in footings means two people are there over a half day, whereas a slab uses seven or more subcontractor teams and happens over a one to two week period.

- **Cheaper plumbing costs.** Typically the plumber's charge is slightly cheaper when plumbing suspended pipework under a timber framed floor than it is buried under a slab.
- **No cost requirements for termite protection.** The slab on ground requires termite protection to the slab penetrations (at the very minimum) whereas the raised house has no cost requirements for termite protection.
- **Greater cost-effectiveness in using lightweight products than brick veneer with steel support.** The costs of the brick veneer skin and the requirement for steel support bars over openings makes it a more costly solution than using lightweight sheet products. It would be costly to reproduce the overhangs and window sizes that are in this house if brickwork were used. In addition, the heavyweight brickwork requires a metal scaffold, not an aluminium one, which is more expensive to hire. The labour time required for brick installation is typically longer than sheet cladding so, again, the scaffold stays up for a much longer period of time and therefore incurs more cost.
- **Reduced scaffolding costs.** Building a traditional roof is more time consuming and costly as it also requires a scaffold in place for a longer period of time. The sandwich panel roof solution is installed in half a day using two carpenters where the traditional trussed roof and ceiling system uses up to five different subcontractor teams and typically occurs over a two-week period.

SMARTER PRODUCT SELECTION – FLOORS

When it comes to floor framing Blacklow chose timber joists. But not just any joists. He designed the home around the most cost-effective joists he could find – 245mm by 90mm Hyne ply I Beams. The retail cost of these is about \$8 per lineal metre compared with two or three times that amount for hardwood or laminated veneer lumber (LVLs).

The maximum span of the joists this size is 4.2m. “So we tried to design the structure of our house and our floor plate around the limitations of our economical materials,” Blacklow says.

“Typically no-one approaches it like that. The builder or designer comes up with a floor plan and then he works out how to make it stand up.”

Blacklow feels this is a recipe for adding all sorts of costs that aren't

that's made from the Scyon™ material, a lightweight cement composite. Unlike particleboard, Scyon™ won't swell when wet. When water penetrates materials like particleboard, it causes it to swell. Then tiles can crack, bulge and pop off.

SMARTER PRODUCTS – WALLS

For the wall frames the team chose prefabricated timber frames. Again, this means the frames turn up on the day they're needed and it speeds up construction. Timber is also easier than metal for carpenters to adjust if a mistake has been made.

However, as the designers began to consider the cladding materials that would go on the frame, Blacklow felt he needed to set some ground rules about product usage with project partner James Hardie.

*You are working with the “grain” of the street to create identity ...
Making frontages “active” creates life, and gives vitality to the public realm.*



Above: Speed of construction and designing for minimal waste keep costs down in The Smarter Small Home.

immediately obvious into a building, because the designer or builder has to make the structure work. He says that with his approach “you can pare down the costs”. For example, the number of bearers (the chunkier, heavier supporting timbers) is reduced and the cost-effective joists selected are used to their maximum capacity.

With the floor framing nailed, the design team began to think about the type of material that would go on top of the frame. The most inexpensive flooring is particleboard and on top of that, tiling can be a good option, particularly when the finished price of between \$110 and \$140 a square metre for timber flooring is factored in.

Blacklow felt that he could source “a good tile for around \$15 a square metre that could be laid for around \$45 a square metre”. Instead of particleboard, the substrate could be a flooring product

“I didn't want this to be the James Hardie affordable house,” he says. “Obviously the prototype house is built in James Hardie's empty factory space, but I didn't want any pressure to use James Hardie® products without me arriving independently at that decision. I thought we'd use three products, but at the end of the day we've used eight or nine – Scyon™ Stria™ and Axon™ cladding, Axent™ trim, Linea™ weatherboard and Secura™ interior flooring, as well as HardiFlex® sheets, HardiColor®, compressed for sunhoods and PineRidge® lining in the walk-in robes!”

After researching exterior cladding materials, Blacklow and the team concluded that there is “nothing that can touch a few of the James Hardie products price-wise”. He says that then when he found that paint companies Wattyl and Taubmans provide 15-year paint warranties for certain paints used ⇒

LOOKING GOOD FROM EVERY ANGLE

▼ FRONT & REAR ELEVATION



▼ SIDE ELEVATIONS



▼ FROM ABOVE



ARE WE BACK TO FRONT?

In its most compact form, The Smarter Small Home has been designed for a rear-loaded lot with the house at the front. Instead of having a front yard and backyard, there is one sizeable yard. "We haven't got a big driveway and wasted 120 square metres," Blacklow says. "Instead we've just used 30 square metres for the front."

If the home is to be used on lots that aren't rear loaded, they'll probably be slightly bigger blocks. For example, a large Queensland developer has already commissioned five Smarter Small Homes after seeing a sneak preview. They will be built on 15 metre wide lots.

Urban designer Sharni Howe says the combination of building height, massing and scale, built form elements, and the interface between uses are fundamental to creating a sense of identity and place. She explains that at this level, you are working with the "grain" of the street to create identity.

Some aspects deserve more attention than others. Making frontages "active" creates life, and gives vitality to the public realm. Howe says that the rule of thumb is that the more frontages on the street, the more active it will be. In areas where frontages have tended to be dominated by garages, rear access lanes can create a more active and safer streetscape environment.



Instead of choosing products that need detailed flashings and jointings, products like HardiFlex® sheets have been used.

on products like Scyon™ Linea weatherboard and Scyon™ Stria cladding, he thought: "This is sensational."

Time saved in construction was another plus. "Many of James Hardie's products are sheet products and so a carpenter can cover an area of three square metres in 10 minutes. So we've chosen products that cover a big bit of area when they go on," Blacklow says.

In addition, instead of choosing products that need detailed flashings and jointings, products like HardiFlex® sheets have been used. "We have this detail that we've used that puts a little bit of a snakeskin (damp-proof membrane) flashing behind the joint in the sheets with a batten [Scyon™ Axent trim] on top. You've got a finished joint and we can put on as many battens as we like." This is a cheaper way to make a weather-tight joint than using folded metal flashings.

In addition, using the Axent trim with its 15-year paint warranty also creates a saving over the life of the building. "Typically we couldn't put on a pine timber batten and not have a drama in under 10 years," Blacklow says.

REPETITION IS THE DEVELOPER'S FRIEND

A key driver of the affordability of a development versus that of a single home is building the exact same floor plan. "When we're doing this we want to make the outside of these homes look as different as possible, while still being essentially the same," says Blacklow. It's this approach that helps ensure a vibrant community instead of the homogeneity that planners, developers and consumers are moving away from.

"The thing I'd say about these products is that you can give me one standard flat sheet like HardiFlex and I can give ⇒

FLOOR PLANS AT A GLANCE



The floor plan of The Smarter Small Home has been reproduced with the permission of architect Brett Blacklow, Earth Spirit Home Pty Ltd. As the plans, sketches, computer images and models of The Smarter Small Home are protected by copyright they cannot be reproduced without permission.

SHINING THE LIGHT ON RUNNING COSTS

Running costs were a key consideration for the design team. According to the Chairman of the National Appliance and Equipment Energy Efficiency Committee, Dr Tony Marker, one watt consumed in stand-by is, as a general rule, approximately equal to \$1 per year. A single appliance using eight watts of power in stand-by will add approximately \$8 per year to your electricity bill.

Stand-by power consumption accounts for up to 10% or more of Australia's household electricity usage. This costs Australian households more than \$5 billion and generates more than 5 million tonnes of carbon dioxide per annum.

To help reduce stand-by power use, Blacklow and the team added an override switch at the front door that can turn off the circuit that has attached to it all the discretionary appliances like televisions, stereos and the like. When you come home you just flip the switch back on.

In addition, off-peak power will be connected to the house, and power points that indicate when off-peak power is available will be installed in areas, such as laundries, that have significant energy-using appliances.

MEASURING WASTE

One of the key elements of the design approach was to design rooms, heights and walls to the size of materials available. "When I buy timber, it has to be in 300mm increments," says Blacklow. "Plasterboard is two different widths. If I'm not thinking of those things when I'm designing, then I'm potentially buying more than I need and I'm also paying someone to cut it down to the right size."

In addition, the team has developed the design to incorporate a number of the offcuts that may be generated. For example, they use HardiFlex sheets in certain places, and then also use the 600mm offcuts in another. That's instead of using full sheets and throwing the offcuts away.

"For example, plasterers often line the inside walls by sheeting straight over a window or door and then cutting it out," Blacklow says. Then half an hour later they need the same size as that or smaller and so they cut off a new piece of plaster."

Because all the waste on a building site is paid for, it makes sense to minimise it. Typically, skips have to be hired and then transported to a transfer station or recycler and then fees paid on that. On this house, the team aims to reduce the total waste produced by up to 50%.

"I'm very comfortable we'll achieve that," Blacklow says.



Smart innovation: sliding doors stack on the outside to maximise the opening, linking the home to its outdoor room.

you five or six different finishes. It can be done without texturing or anything like that, but through using vertical or horizontal battens, or smooth ones or really protruding ones. These products just have a bucketload of flexibility at a really affordable price," he says.

WINDOWS AREN'T JUST A HOLE IN THE WALL

Blacklow knew that the typical length of plasterboard and other lining materials is 2,400mm, so he set ceiling heights at a standard 2.4m high. Windows wouldn't just be a "hole in the wall" either. When considering where to locate them, some key questions would need to be answered first.

Is the window for access, ventilation, view or daylight – or a combination of those factors? How can enough of them be used while at the same time minimising the number of them?

Glazing is a building component that contributes disproportionately to a building's energy ratings. In an unpublished study ratings appeared to be directly related to the overall proportion of glazing and none achieved a 5 star rating if its glazing ratio was in excess of approximately 26% of its floor area. (This study and the factors that contribute to energy efficiency are covered in more detail in *The Smarter Green Book*, available at <http://www.jameshardie.com.au/smarter/green.html>.)

If windows are poorly chosen, sized, oriented or protected, it can allow too much solar radiation into the building causing overheating in summer. In addition, overglazing causes excessive heat losses in winter.

With these factors in mind, Blacklow decided that instead of putting a window in every wall, they would break it down to determine the function of the specific

window. "This wall is the one we get our light through; this opening is for access; this is for ventilation – and when we get to one for ventilation, we make it a louvre." Louvres allow the wall to be opened in percentages. When it's a view window, it has been made a fixed window, because Blacklow claims that's five times cheaper than having an openable one. The western wall of The Smarter Small Home has no windows at all, but it does use Makrolon® Multiwall sheets.

At less than half the price of normal glazing, this polycarbonate product floods the house with natural light while reflecting 91% of the western heat load. Its stylish and unique look also adds to the aesthetic appeal of the project.

Blacklow says this approach means that the total window bill is 65% to 70% that of a normal volume builder, because they don't usually approach the design of windows in this way. "They put double-hungs here, sliders there, and they haven't saved money where they could," he says.

HARDWORKING SPACES

In a house as small as this one, in total about 120 square metres, no space can be wasted. As a consequence, there are no hallways. Blacklow says they've also tried to use a lot of combined rooms and, in some ways, they've reverted back to features popular in the 1950s, like eat-in kitchens.

Instead of separate kitchen, dining and living rooms that aren't all necessarily well used, the designers have created a large room with a kitchen at one end with space for a large table that can be used for food preparation and dining. Alternatively, a mobile kitchen preparation bench and a smaller dining table can be used.

Blacklow says flexibility is the key. "While we've been designing a house that's affordable, we know that in creating this we're taking people a few steps beyond everything else they're seeing

now on the market," he says. "As a result, every decision we've made has been with the goal of creating a space that feels large even though it's small. And we're not decorating it with things that aren't needed.

"We've been intent on getting the architecture to do the work. We've been trying to make a great cake, not squirt a whole lot of pretty icing on it."

You be the judge. The Smarter Small Home is available for tours from April 2, 2009. Check at www.smartersmallhome.com.au for details. ⇔

Smart shading and window placements are important.





James Hardie has offset the carbon produced in the construction of The Smarter Small Home by supporting wind farms in India.

COUNTING THE CARBON

Analyse, reduce and offset: that should be the recipe for designers and builders who are serious about their carbon footprint.

You can't manage what you can't measure, and there is energy used in lots of ways that you may not have even thought of. When it comes to houses, Climate Friendly Managing Director Joel Fleming says that the carbon emissions from buildings are actually one of the greatest contributors to Australia's greenhouse gas emissions.

Climate Friendly's approach is to help organisations understand and measure their carbon footprint by working out how many tonnes of carbon they produce. They then look at ways to reduce it, like using green energy from a wind farm, for example. To offset other unavoidable emissions they might suggest purchasing renewable energy carbon credits from independently Kyoto-compliant projects.

James Hardie asked Climate Friendly to measure the carbon footprint of 'The Smarter Small Home'. It found that about 139 tonnes of CO₂ were used to manufacture the materials used in the home as well as to actually construct it. That works out at about 1.16 tonnes of CO₂ per square metre. This compares to almost 195 tonnes, or 1.62 tonnes per square metre, of CO₂ for a traditionally built home

(we modelled the Smarter Small Home design but with a concrete slab, brick veneer and concrete roof tiles). See graph below.

WHERE THE CARBON COMES FROM

Climate Friendly reports that, based on its analysis, most of the emissions from The Smarter Small Home come from steel, aluminium and plastics; together these account for 60% of its total emissions. In the case of the traditionally built home, most of its emissions come from concrete, clay bricks, steel and plasterboard, which together account for 58.6% of its total emissions.

They also quote CSIRO data indicating that the average energy intensity for a high energy intensive house is approximately 5,500 megajoules per square metre (MJ/m²) while the average energy intensity for a low energy intensive house is approximately 4,500 MJ/m².

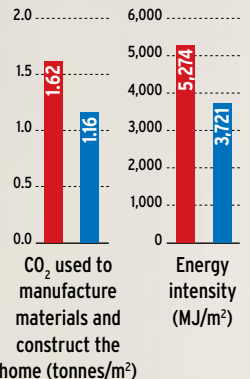
Climate Friendly's analysis demonstrates that the energy intensity for both The Smarter Small Home (3,721 MJ/m²) and the traditionally built home (5,274 MJ/m²) are less energy intensive than the average low and high energy intensive houses. The Smarter Small Home is significantly less than any of them.

James Hardie has offset the carbon produced in the construction of The Smarter Small Home by supporting the

GFL wind farm in Gudhepanchgani in the state of Maharashtra, India. Operational since April 2007, the 23.1MW wind farm is made up of 14 wind turbines each capable of generating 1.65MW of energy and displacing 51,618 tonnes of greenhouse gas emissions caused by the burning of fossil fuels.

Climate Friendly often supports projects in developing countries like China and India. "In part, this is because Australian projects don't currently reduce emissions over and above the cuts already required by regulation," Joel Fleming says. ¹

WHICH IS GREENER?



■ A traditionally built home
■ The Smarter Small Home

¹ The 120 square metre home is built on a 300 square metre 'lot' inside an empty factory hangar belonging to James Hardie. This approach was taken to speed construction and remove the need for planning permits. It also meant that the prototype home could be used as a display for nine to 12 months. However, The Smarter Small Home is designed and intended to be built on actual sites.

² In the relevant James Hardie technical manual, James Hardie recommends the use of folded corrosion-resistant flashings as best practice. Designers and builders are responsible for ensuring the appropriateness and adequacy of the weather-tight details used on each particular project.

small is the new big

STYLE AND SUSTAINABILITY

Small is beautiful. In fact, after years of expanding home sizes, it seems that small may actually be the new big.

WORDS VALERIE KHOO



The trend towards smaller, more sustainable homes is showcased in this home in Kurri Kurri, NSW, by Living Green Designer Homes.

small is the new big

It's easy to make a house bigger – that's a no-brainer. But in a small space, you need to make areas multipurpose.

WHILE THE IDEA OF A SMALL HOME may conjure images of box-like living and cramped conditions, many designers, architects and builders are setting out to prove that a small home can provide everything people need.

They are creating homes that are not just small, they are also stylish and sustainable. In Australia, builder Craig Riddle creates affordable homes that tick all these boxes.

Riddle – an accredited HIA GreenSmart builder and HIA award winner – says that the hardest thing to achieve is efficiency in a smaller area. “And that’s what we’ve been trying to become the best at,” says Riddle, who changed the name of his company from Craig Riddle Construction to Living Green Designer Homes in 2008. “It’s easy to make a house bigger – that’s a no-brainer. But in a small space, you need to make areas multipurpose.”

Riddle believes his approach is key to the future of the home construction industry. “I am extremely passionate about it and I’m convinced that, whether we like it or not, it’s the way of the future,” says Riddle.

THE NOT SO BIG HOUSE

This approach reflects the growing movement spearheaded by US architect Sarah Susanka, author of *The Not So Big House*, first released in 1998. In an interview about the book’s re-release for its 10th anniversary, Susanka said: “It used to be that reporters and other people I’d meet would ask me, ‘Why would someone choose to downsize?’ Now they are asking me, ‘When did people begin to downsize?’ It’s no longer something weird or outrageous.

“It’s seen as the only sensible thing to do, and there’s a perception of increased value with a smaller, better designed, more sustainably-made house – something that was not the case when the book was first released.”

Susanka also observed changes in home design over the past decade.


“People are building for the way they really live. They’re eliminating the rooms they rarely, if ever, use,” she said. “But perhaps most importantly of all, they are building places that are inherently beautiful.

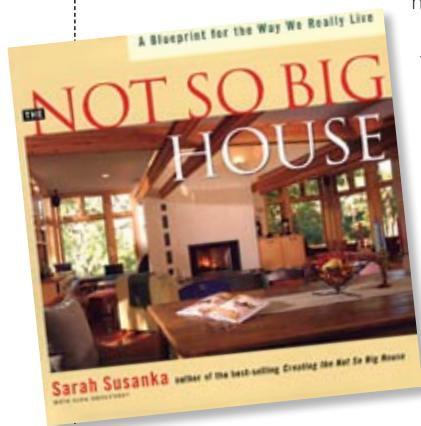
“This is one of the most sustainable things one can do, because when a place is beautiful, it is not only well looked after by its present owners, but by all the owners to come. This helps to create truly livable houses and communities with a sense of soul to them.”

FUTURE TRENDS

This is supported by statistics from the American Institute of Architects (AIA) Home Design Trends Survey that reveal the average size of homes in the US is starting to decrease. The AIA’s chief economist Kermit Baker wrote in ‘As Housing Market Weakens, Homes are Getting Smaller’ (June 2008): “One obvious sign of the changing characteristics of homes is their size. According to government figures, the average size of a new home has increased almost 50% over the past three decades. As recently as 2006, almost twice as many residential architects participating in the AIA Home Design Trends Survey reported home sizes to be increasing as reported them to be decreasing.

“By 2007, that trend had reversed, as more residential architects reported home sizes to be decreasing than increasing. With the 2008 survey, more than twice as many respondents reported home size declines as reported increases (33.5% vs. 15.5%).”

As consumers begin to appreciate the value of small homes, Susanka believes the trend is unlikely to stop. “‘Not So Big’ houses are likely to become the sought after alternative to the McMansion,” says Susanka. “We can see this movement beginning, but in years to come the movement will be more obvious – away from bigger and toward better. Better designed, better built, and better to be ourselves in.” 



The products

THE KEY INGREDIENTS

There is a host of products that help turn the small home into The Smarter Small Home™. Here are the key products that make this home a success.

HardiFlex®
sheets

Scyon™ Linea™
weatherboard

THE ROOF

Bondor's SolarSpan® Roof Panel is an insulated panel with a ribbed upper skin, insulation and a smooth underside ceiling finish all in one panel. Its pre-painted steel underside has a tongue and groove roll-formed edge and is bonded to an insulating polystyrene core with a profiled roof sheet on the top side. It can be used for house roofs, patios, pergolas and carports, as well as portable and industrial buildings.

It was chosen primarily because it not only created a finished building component immediately after it was installed, but also because the polystyrene core provides efficient insulation and helps reduce noise from rain and hail, and the pre-painted Colorbond gives a durable finish.

For more information:
www.solarspan.com.au

but can also be used for rafters, lintels, purlins and girts.

They are lightweight yet strong, producing floors that are uniform, rigid and don't bounce. All Hyne I Beams are fully termite protected, with a termite protection that carries a 25-year guarantee.

The Hyne T3 Green was used for veranda framing. Unlike visually graded alternatives, every piece of Hyne T3 Green is mechanically stress graded to comply with the structural requirements of MGP10 as specified in AS1720 Appendix H. The MGP10 selected for Hyne T3 Green comes from Australian plantations and does not contain the heavy metals chrome and arsenic. The active ingredients are organic, known to degrade in soil and are not bioaccumulative.

For more information:
www.hyne.com.au

THE SUB-FLOOR

The screw pile products used in The Smarter Small Home were developed by SFL Foundations Technology, a subsidiary of the Australian unlisted public company Steel Foundations. The company provides geotechnical services, engineering design, piling, bored piers and top-of-slab foundation solutions, for all building sectors.

SFL's design-protected and patented screw pile founding systems are based on the well-known screw pile technology used for 150 years throughout the world.

For more information:
www.steelfoundations.com.au/ScrewPilingResidential

THE FLOOR FRAME

The Hyne I Beam was used in the floor frame of The Smarter Small Home. It combines timber components with advanced technology to form a structurally efficient I section that is particularly suitable for use as floor joists,

THE WALLS



The stepped shiplap on the long edges of Axon cladding means sheets are easily installed. Sheets are sized to fit common wall frame sizes, which means less waste and cutting.



SCYON™ STRIA™ CLADDING

This wide cladding board has a 15mm horizontal joint that has the classic appeal of decorative render.

It's pre-primed and easy to install, which was one of the reasons this product was chosen to line the laundry of The Smarter Small Home. Instead of installing another lining, which may have needed to be set by a plasterer and then painted, the Stria cladding was easily installed then painted. The laundry lining was

complete – and durable for the moist environment.

For more information:
www.scyon.com.au/stria.html

SCYON™ AXON™ CLADDING

This vertically grooved cladding panel continues to look sharp and smooth. The stepped shiplap on the long edges of Axon cladding means sheets are easily installed. Paint application is fast because the pre-primed sheets mean less paint and time are needed to achieve a high-quality finish. Finally, sheets are sized to fit common wall frame sizes, which means less waste and cutting.

For more information:
www.scyon.com.au/axon.html



SCYON™ LINEA™ WEATHERBOARD

This 16mm thick horizontal weatherboard has the deep shadow lines of traditional weatherboard – it just doesn't weather like it! Linea weatherboards are back bevelled to sit flush with the stud so they're easy to install. Paint application is fast because the pre-primed sheets mean less paint and time are needed to achieve a high-quality finish.

In addition, Linea weatherboard will maintain its integrity and general appearance significantly longer than timber. Some timber is susceptible to cracking in exterior applications, which in turn can lead to shrinking or warping. Linea weatherboard will resist shrinking, swelling and cracking (when installed and maintained correctly) to hold paint longer

than wood, and can also be painted dark as well as light colours.

For more information: <http://www.scyon.com.au/linea.html>

SCYON™ AXENT™ TRIM

A thick and versatile trim, Axent trim is the easy way to add finishing touches that keep their finish. The range of thicknesses and sizes means Axent trim can be used with any James Hardie cladding and any domestic window, which removes the need for special window orders to match different cladding.

It's also pre-primed for fast paint application and, like Linea weatherboard, Axent trim will maintain its integrity and general appearance significantly longer than timber.

For more information:
www.scyon.com.au/axent.html

HARDIFLEX® SHEETS

These tough, hard-wearing, low maintenance flat sheets make it easy to achieve a smooth, painted finish. They can be used as an eaves lining, external wall cladding and veranda and carport soffit lining.

For more information:
www.jameshardie.com.au

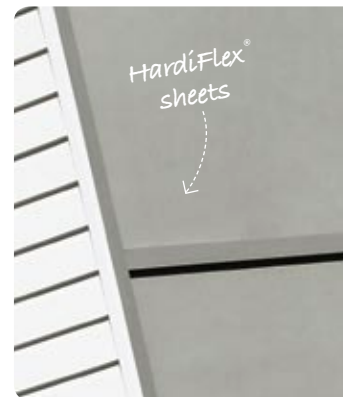
PINERIDGE® LINING

This is an impact-resistant internal wall lining that has a timber panelled finish. It's typically used in garages, workshops and rumpus rooms. It can also be used to create an elegant practical dado in traditional hallways. In The Smarter Small Home it was used inside walk-in robes, as a robust lining that could take the knocks and scrapes of suitcases and shoes!

For more information:
www.jameshardie.com.au

MAKROLON® MULTIWALL SHEETS

This polycarbonate glazing system provides outstanding flexibility in design and advanced heat reflecting and light transmitting performance. An advanced construction of internal walls and chambers gives excellent insulation ⇒



THE SCYON™ MATERIAL

The brainchild of James Hardie's research and development team, Scyon™ is an advanced lightweight cement composite with heavy-duty performance. It is resistant to damage from termites, rot and fire (when installed and maintained correctly), but it can also be gun nailed and is easy to cut – like timber.

For more information:
www.scyon.com.au

the products

properties and impact strength 250 times that of glass. Both sides of the sheet have a co-extruded UV barrier which provides protection from 99.9% of harmful UV radiation, giving superior resistance to outdoor weathering. Made from Makrolon® polycarbonate resin, Makrolon® Multiwall ensures high-impact strength, clarity and excellent weather resistance. The colour used was Opal.

For more information: www.laserlite.com.au/residential/laserlite_multiwall.asp

THE PAINT

Wattyl Solargard® was used both inside and out of The Smarter Small Home. When used on Stria cladding, and Linea or PrimeLine weatherboard, Wattyl provides an extended 15-year warranty. Externally, the colours used were: Builder's White, Wattyl Colorbond Dune, Wattyl Chino and Wattyl Colorbond Woodland Grey. Internally, colours were again Builder's White and Colorbond Dune low sheen.

THE WINDOWS

Trend aluminium windows, in Anodic Natural Matt, were used. While most of the windows were standard products, the company was able to work with Blacklow's design team to turn a standard glass slider with a 1,500mm opening into one with a 3,600mm opening. The solution was developed after Blacklow's team took the standard frame and re-built it in their office! All the glass panels in the slider now stack on the outside of the building. The new window also cost about half the price of the standard slider.

For more information:
www.trendwindows.com.au

THE LIGHTS

Fanaway® Retractable Blade Ceiling Fan lights were used in The Smarter Small

Home. Conventional fan blades can be intrusive, but in this fan they automatically retract so that the unit transforms into a slim, modern light pendant. Turning the fan means blades swing out of the unit horizontally to full fan sweep, creating a centrifugal force which circulates air within a room. Using a low energy fluorescent 40 watt T5 light source with electronic ballast, the Fanaway creates open space in the room environment, accumulates less dust, and is unobtrusive and versatile enough to visually integrate into most building interiors.

Installation is easy and quick as blades are already installed and balanced in the factory.


For more information: www.beaconlighting.com.au/fanaway.php

THE DECKING

The Smarter Small Home uses ModWood Decking. ModWood is a wood composite, made from recycled wood and plastic. It looks and feels like natural timber, but requires none of the maintenance of traditional wood. Paints and stains aren't needed. In addition, it has a high degree of UV stability, and is highly resistant to extreme weather, moisture and termites. ModWood will outperform conventional timbers in many areas as the products won't rot, crack, warp or splinter.

ModWood Technologies is an Australian owned company that was Australia's first manufacturer of wood/plastic composite products.

For more information:
www.modwood.com.au

The information provided above was obtained from the relevant websites in February 2009. Readers should conduct their own independent inquiries as to the suitability of these products for their projects. These inclusions should not be taken, of themselves, as a product endorsement by or for James Hardie. 



PineRidge lining was used inside walk-in robes, as a robust lining that could take the knocks and scrapes of suitcases and shoes!

the next steps



THE NEXT STEPS

If you've arrived at this page, you would now know at least a little about The Smarter Small Home™. You may have even been to see it. So what can you do next?

WORDS SUZY YATES

the next steps



WOULD YOU LIKE TO VISIT THE SMARTER SMALL HOME?

Did you know there are tours of The Smarter Small Home? Check out our itinerary at the website to find out more: www.smartersmallhome.com.au

ARE YOU A LAND DEVELOPER WANTING TO DELIVER AFFORDABLE HOUSING TO THE MARKET?

You're going to need to get your subdivision plans through council, of course. And, as you know, all councils are different so we've tried to imagine some of the issues, if any, that you might encounter at this stage.

- Not all councils embrace rear-loaded lots. (There are lots of reasons – some of which we've outlined in this book – why rear-loaded lots are a great solution, for affordable and vibrant communities.)
- Some councils are more comfortable with developments with cul de sacs versus connected street patterns, but cul de sacs don't really suit rear-loaded lots!
- Some councils equate affordable housing with cheap and nasty ghettos. Designed the right way, nothing could be further from the truth.
- Some councils aren't as innovative as others – and as houses with garages at the front have become the norm, it's hard for some councils to move away from the way things are.

The best outcome would be that councils embrace the approach of The Smarter Small Home and facilitate swift approvals. The team at LJ Hooker Land Marketing, Earth Spirit Home and James Hardie are happy to help you work towards this.

ARE YOU A HOME OWNER OR BUILDER WHO WANTS TO BUILD YOUR SMARTER SMALL HOME?

If you are keen to build one or more Smarter Small Homes then the simplest option is to purchase Earth Spirit Home's Smarter Small Home Design Kit, which contains not only the plans but other documentation needed to build this affordable home.

For example, the kit includes a full specification, bill of quantities and even

pre-completed purchase orders with indicative, pre-negotiated pricing.

The kit is available to purchase online from Earth Spirit Home for \$550 including GST. Just go to www.smartersmallhome.com.au and we'll give you all the details.

If you're a builder, this should be all you need. If you're a home owner who also needs a recommendation about an appropriate builder, check out our directory of builders at www.lookhome.com.au. If you're still stuck, Ask James Hardie™ at 13 11 03.

ARE YOU A DESIGNER OR ARCHITECT WANTING TO CREATE YOUR OWN VERSION OF THE SMARTER SMALL HOME?

If you like what you see but want to adapt the plans to suit your needs, that's fine. The plans can be used on any block size and can be applied to front-loaded sites as well as the rear-loaded option.


If you want to create your design from scratch, but want to have a preliminary discussion about the key things to consider, then one of the James Hardie salespeople – experienced in working with builders and designers across the country – can help.

ARE YOU A COUNCIL PLANNER OR URBAN DESIGNER?

We invite you to tour The Smarter Small Home to see what's possible. You'll be able to see firsthand how an affordable housing solution can be achieved, and it may give you new ideas on how to apply it to your region.

You are also welcome to review the Smarter Small Home Design Kit from Earth Spirit Home. Just go to the website, www.smartersmallhome.com.au, for more details.

CONTACT DETAILS

The details of all our partners are available at www.smartersmallhome.com.au or Ask James Hardie™ at 13 11 03. 

THERE'S MORE TO LOOKHOME



When you began reading this magazine, you may never have seen or heard of *LookHome*™ before. If that's the case, we'd like to take a moment to introduce you to all the other things that make *LookHome* the ultimate guide to renovating and building.

LOOKHOME MAGAZINE

There are six earlier issues of *LookHome* magazine, and we're happy to send them to you, free, if you'd like to subscribe at www.lookhome.com.au.



THE LOOK GREEN HOME DESIGN AWARDS

When we surveyed our thousands of magazine subscribers last year, one topic they wanted more information on was green design. We've responded by creating national design awards that will reveal the who, what and why of the best in affordable – but sustainable – design. You can enter a new home, demonstration home or renovation **AND** you can also vote. Find out more about entering, voting **AND** prizes at www.lookgreenhomeawards.com.au.



MYLOOKHOME™TV

It's reassuring to know that around 77% of *LookHome* readers "love" our magazine. Last year, when we planned the *LookHome* program for 2009, we thought: "Why stop at a magazine?" We know that you want more information about green design (and renovating, redecorating and, yes, mulching!) so why not deliver this on a web-TV show that's truly interactive? Think of it as talkback radio – but you can watch and listen on the net. Find out more at www.mylookhometv.com.au.



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Of course, there's always more. (But no steak knives – promise.) To see the rest go to www.lookhome.com.au.

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