

GETTING THE

WORDS EMILY CHANTIRI

GREEN LIGHT

There's a new sense of community in the world of commercial property. As consumers demand all that is green and sustainable, architects, engineers, developers and designers are welcoming the growing trend towards collaboration.

THE FIRST THING you notice as you drive into Canberra's new eco-friendly precinct of Crace is the brightly coloured terraces packed together much like a giant Lego village. Crace is the first Australian suburb developed to take climate change into account. Inspired by inner-city living, this urban village is a combination of commercial and residential dwellings. The driving force behind it is sustainability. The homes have a passive solar design responsive to climate conditions, including rainwater tanks and double-glazed windows to maximise energy efficiency. The main street has shops, cafes and communal facilities. No home is more than 400m from a bus stop – easy access to public transport means fuel and emissions savings.

Crace's green initiatives have seen it awarded the Housing Industry Association (HIA) GreenSmart accreditation. Kristin Brookfield, HIA senior executive director of building, development and environment, says the precinct is a taste of things to come. Major developers such as Stocklands, Australand and Delfin have either developed green estates or are in the process of adopting similar principles.

Government regulations and proactive builders are the two main drivers of the green agenda. "Proactive developers see the benefits of green and they know they can attract customers by offering sustainability," Brookfield says. "The other major drivers are new government regulations on energy, water efficiency and waste-management control. Canberra has set an agenda for sustainability. Crace is an example of this." >



Pixel Building, Melbourne

PHOTOGRAPHY:
JOHN GOLLINGS



Developments that marry both the residential and the commercial are becoming less of an exception, she says. And while it's not quite the return of the corner shop, it's reminiscent of the days of shopping locally as opposed to heading to the supermarket and malls.

"It's a return of community," says Brookfield. "Estates like Crace can shape the shopping habits of the future, whereby customers use local services that are in walking distance. If they do not have to use cars, they save on fuel costs and emissions."

Large developments are providing an environment for breaking new ground in sustainability performance, says Paul Sloman, a director of engineering consultancy Arup. Prime examples are Melbourne's Docklands, Sydney's Barangaroo district, Adelaide's Olympic Dam project and industries around mining in Perth. "I've worked on projects all over the world," says Sloman. "In Tokyo and Hong Kong, these types of developments successfully bring together the elements of residential, commercial and retail."

Australia has the opportunity to create vibrant communities within these developments, he says. "The integration of retail and commercial within a residential complex can work as each property type feeds off the other. For retail to survive, it must evolve. Quality of service is important. I believe we will see retailers offering a bespoke or more personal level of service, harking back to the good old days."

ROMILLY MADEW, CEO of the Green Building Council of Australia (GBCA), says Canberra, Adelaide, Melbourne and Brisbane are the nation's green hot spots. In Canberra, not only has the government set a 2020 target for all its operations to be carbon neutral, but it has also provided green incentives to the building industry, making it more appealing for developers.

"Our job at the GBCA is to look at the environmental attributes of the buildings and then give them a star rating of either four, five or six stars, with six being world leadership [standard]," Madew says. "We didn't anticipate such a quick take-up from developers."



Barangaroo South Cultural Centre, Sydney (artist's impression)

At first, developers sought star ratings only for commercial buildings, but now they are prized in all buildings. Says Madew, "Over the past five years we have seen a huge shift towards greener buildings. The shift has also resulted in innovative designs and products."

These include PET bottles used as backing boards on desks, recycled concrete used on building sites and removable carpet tiles, such as InterfaceFLOR, which use considerably fewer materials than traditional carpet, to cover office floors. "These tiles have revolutionised carpet on a large scale," she says. "They can be removed if spoilt and then taken back and recycled. More companies are introducing this stewardship concept whereby products can be reused and recycled."

The biggest beneficiaries of the green shift, she adds, are employees. "A number of the major banks have moved into green buildings. Their employees have hot-desk workstations. It is open-plan and they have access to fun breakout spaces. It's a casual environment that entices people to work within different groups. The buildings themselves make the most of the outside climate and natural daylight as they allow the flow of fresh air. This has been proven to give productivity gains, especially with reducing sick leave."

In Brisbane, the \$600m One One One Eagle Street building achieved a six-star Green Star Design rating from the GBCA. The office tower, developed by the GPT Group, boasts significant energy savings via the use of natural light, and a facade of the highest-performance glazing. Efficient light fittings with flexible zones to maximise daylight

MELBOURNE DOCKLANDS PHOTOGRAPHY: GETTY IMAGES; PIXEL BUILDING: BEN HOSKING; EAGLE STREET: GPT GROUP



One One One Eagle Street, Brisbane (and left)



Melbourne Docklands

The more material we can recycle, the more we improve the environment



Pixel Building, Melbourne

penetration and automated blinds help reduce energy demands. A gas-fired generator for on-site power provides the base electrical power for the building, taking a significant load off Brisbane's city grid and minimising carbon dioxide emissions.

Mark Gray, managing director of construction group Leighton Holdings, says sustainability is a key driver in Leighton's developments. Tenants and customers consider it a high priority. "If you want to attract younger tenants to your commercial office, you have to provide a sustainable office environment. We are striving for a five- or six-star rating. It's very critical and this is driving corporate thinking. Five or six years ago we were in the embryonic stage in our green thinking and we have moved on. It's now mainstream thinking."

Lifestyle factors are also shaping the trend, with more people walking or cycling to work. This means buildings need to provide parking for bikes, showers and, often, somewhere to eat breakfast. "This is a physical change in building and it embodies both the health aspect and transport issues," says Gray.

According to Gray, tomorrow's buildings will have more shading devices and will have green spaces, such as market gardens, on top. "We will be making use of every inch without wastage."

The other major shift has been in recycling waste. Gray says Leighton Holdings recycles as much as 90 per cent of construction waste. "In the past, waste was taken to landfill. The more material we can recycle, the more we start to improve the environment." ➤

AN EYE FOR INNOVATION

Who's leading the charge?
Here, five gurus of green.



Melbourne Brain Centre



GEORGE KOSTAS

Managing director of construction & development, Brookfield Multiplex

What the company does

Global contracting and development:

building, engineering and maintaining property.

Triumphs 737 projects completed with a combined value of \$51b, among them the Melbourne Brain Centre; One Shelley Street (home to Macquarie Group), Sydney; Ausgrid Learning Centre, Sydney.

GEOURGE KOSTAS came to construction via a career as a chartered accountant, working in private practice before moving into property. In 2000, he joined Multiplex and has since held a number of senior management positions across treasury, corporate and construction. Last year, he was appointed managing director for the Australasian construction and development business.

“Brookfield Multiplex is an innovative contractor,” says Kostas. “I believe we have been – and still are – at the cutting edge in sustainability. This is more than just being green. Looking back over the past five decades, there are three elements at play in every project:

the environment, the economy and social sustainability. All three need to be integrated to make any project a success.”

Among a number of high-profile buildings is the six-star Ausgrid Learning Centre in Sydney, where energy efficiency measures are expected to halve the learning centre’s power usage and reduce costs by approximately \$60,000 each year.

“One Shelley Street is a highly efficient building, which translates into massive savings for the occupants and community within,” says Kostas. “It uses 50 per cent less power and water, saving six million litres of water and 3,428,650 kilowatt-hours of electricity each year.”

There is, he adds, a misconception that going green is expensive. On the contrary, there are major savings.

“We use evidence-based design principles collected from independent academic research, which verifies [the fact] that high-performance buildings create cost savings, and the productivity of the people who work in these spaces show increases of up to 15 per cent. Over the long term, a green building doesn’t cost any more than a non-green building. It’s a worthwhile investment and if you don’t do it, you’ll lose business. Australia is leading the world in sustainability and we want to remain there.”



So sustainable:
1 Bligh Street, Sydney,
features a double-skin
glass facade and
naturally ventilated
central atrium



SIMON WILD

CEO & managing director of
Cundall Johnston and Partners Group

What the company does

Specialist sustainability and engineering
consultancy with a focus on environmental impact.

Triumphs 1 Bligh Street and Rouse Hill Town Centre
(Sydney); the new Port of Brisbane office; winner of the
Zero Carbon Challenge (South Australia).

SIMON WILD grew up in the village of Rodney Stoke in England, 30km south of Bath. His green sensibility started at home. “The forest was my backyard. I grew up in a village surrounded by trees. We would ride our bikes and disappear into the woods discovering animals and nature. At home, Mum and I would plant vegetables in our back garden. I had a strong connection to nature.”

After leaving university, Wild began working at an engineering company, designing naturally ventilated buildings. He says the role helped him understand how buildings consume energy. Shortly after, he joined Cundall Johnston and Partners Group, UK.

In 2000, Wild moved to Australia and three years later he set up Cundall’s Sydney office focusing on sustainability or ecologically sustainable design (ESD). Today he is the CEO and managing director

of a company that specialises in a wide range of green and energy-efficient developments, including a ground-breaking project at the Rouse Hill Town Centre in Sydney’s north-west. The Rouse Hill project created a comfortable and open retail street environment that uses less energy. The old air-conditioning system was removed and replaced with natural ventilation and extensive operable shading mechanisms that keep the sun out in summer, yet allow the warmth to come through during winter. “The entire town centre was built to take advantage of wind flow and sunlight, without any reliance on air-conditioning,” says Wild.

Recognised as one of Australia’s leading ESD consultants, Wild recently established the Collaborative Future website (collaborativefuture.com.au), which provides a platform for the early innovators and adopters of sustainable technology to share information.

“Real changes are happening around the globe when communities come together to create change. We are seeing evidence of this with online tools such as crowd sourcing, and even more recently with cooperatives and buyers’ groups working with suppliers and offering products to consumers. The next innovation in our industry is true collaboration. Our industry, which incorporates designers, developers and the construction community, must work in the same way as other social communities. We must share ideas, technologies and problems in an open way without fear of losing ownership or losing face.” ➤



SARAH KAY

Architect & workplace designer, principal at Woods Bagot

What the company does Architecture, consulting, interior design, master-planning and urban design.

Triumphs Ranked 14th in Building Design's annual

World Architecture 100 list for 2012, the only Australian practice in the top-15 percentile. Projects include The Cairns Institute; Ivy, Sydney; Melbourne Convention and Exhibition Centre; The Garden House, Melbourne; Perth International Airport expansion.

SARAH KAY'S attitude to sustainability differs, she believes, from most people's. "I have never been too fixated on the finer details, although [they are] intricate to the process. Whether the final material selection is recycled timber joinery or re-gassed office chairs, this is not what drives and inspires me. What does, in very basic terms, is the manipulation and the use of space," says Kay. In other words, the big picture, the utilisation of time and space. "For no office space to be sitting empty – from early in the morning and even throughout the night – would have to be the ideal."

Woods Bagot has helped its clients reposition building space so it is used over time. Recent projects that illustrate the best use of space and

real-time working include the National Australia Bank's new headquarters in Docklands, Melbourne, and the head office of property consultants, the GPT Group, in Sydney's MLC Centre tower. The GPT workplace encompasses three interconnected floors of the tower. The placement of the stairs connecting the levels was an integral part of the design. The centrepiece stairs create a hub that helps make employees feel part of the community and wider organisation.

"The range of tasks required in a workplace is diverse. From a space-utilisation perspective, these workplaces are designed assuming that not everyone is at his or her desk between the normal nine to five. A workforce may have as many as 3000 people, but they're not always in the office. Realistically, it could be 2500 who are using the space at any given time. Workplaces must allow flexibility to accommodate working patterns, where the hours are staggered so the use of the office space is maximised around the 24/7 clock or shiftwork."

Also setting change in the workforce is the cultural shift away from stay-at-home mums to both parents working. "This vision of the future supports the nuclear family of the future whereby both parents work. If they could 'shift' work, they could still be there to parent their kids. Companies have seen an increased need for flexibility. They have responded to that in the way workplaces are now being designed." ➤

GPT Group head office, Sydney



PHOTOGRAPHY: TYRONE BRANIGAN



DYLAN BRADY & DIRK ZIMMERMAN

Directors of Studio 505

What they do Architecture. **Triumphs** Pixel Building, Melbourne; Science & Cultural Arts Centre facade, Suzhou, China.

IT WAS a meeting of like minds when architects Dylan Brady and Dirk Zimmerman met while working on the Federation Square project in Melbourne in 1998. The pair collaborated to create the atrium structure with its unique folded geometric facades.

Brady says the cultural building was a very complex, yet contemporary piece of architecture. “The synergy of that project was most similar to the design and construction of the Opera House. This was a massive undertaking, both conceptually and architecturally.”

In 2003 the pair formed Studio 505. The company’s projects have included designing the facade for the Expo pavilion in Suzhou, China. The pair developed an intricate yet simple and effective design to enclose the massive Suzhou Science and Cultural Arts Centre.

“We challenge everything we do and embed sustainability into everything we do,” says Zimmerman. “We are designing the ward towers of a hospital in Singapore that radically alters the configuration of the hospital beds. We have achieved a 200 per cent improvement on the standard model in efficiency and effectiveness of ventilation via simple, innovative planning of windows and natural airflow.”

Their jewel in the crown is the award-winning Pixel Building in Melbourne, which has wind turbines, solar panels and a facade made of recycled coloured panels that maximises daylight, shade, views and glare control. Pixel has received the highest rating of six stars. In March, it achieved the highest international LEED (Leadership in Energy and Environmental Design) rating from US body the Green Building Council, which certifies the world’s greenest buildings.

“This is a fantastic outcome,” says Brady. “We have created a benchmark building that has set a standard for future green buildings. We have learnt so much from this. We cannot continue into the future without improving on sustainability. It’s fundamental.”



DANIEL GROLO

CEO of Grocon Construction

What the company does Grocon is the largest private developer and builder in Australia. **Triumphs** Pixel Building, Melbourne; Melbourne Cricket Ground; Number One Martin Place, Sydney.

GROCON construction was started in the 1950s by Italian immigrant Luigi Grollo. Three generations later, his grandson, Daniel, overseas the nation’s largest family-owned construction company. Grollo says developers, architects and governments must create cities that have a much smaller impact on the environment.

“The world’s population is growing from six billion to 10 billion people in a very short time. The bulk of the growth will happen in our cities. We have to change our thinking and create sustainable cities that have the minimum cost to our environment.”

Grollo, a founding member and director of the Green Building Council of Australia, believes Australia is at the forefront in sustainability. Grocon developed Melbourne’s Pixel Building, Australia’s first carbon-neutral office building. “More than 44,000 buildings in 120 countries have used the LEED rating system. Pixel scored 105 points out of 110 – the highest-scoring project ever assessed by the LEED.”

Australian consumers demand sustainability, he says, and products are increasingly designed with sustainability in mind. “Food manufacturers are clearly denoting recycling contents in their packaging. Coca-Cola has a strategy to be a huge recycler of its own waste. It’s no longer about cost. Consumers want providers to behave sensibly. It’s a global shift and slowly companies are responding to this shift.”

Fifteen years ago, Grollo points out, only 10 per cent of waste was recycled; the rest went to landfill. Today 90 per cent is recycled. 🌐