



Wild but wonderful

The carbon-neutral Pixel in Melbourne is the greenest building in Australia, completely self-sufficient in its energy and water requirements. The big challenge now is to have its benchmark standards flow across the market

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The Architect

Dylan Brady Director, studio505, Melbourne

The Client

Daniel Grollo CEO, Grocon

The Building

Pixel, Melbourne

What they are reading:

Daniel Grollo *Mandela: The Authorised Portrait* by Maharaj & Kathrada.

Dylan Brady *Terminal World* by Alastair Reynolds

What they are thinking about:

Daniel Grollo Australia doesn't mean a lot in a global sense in terms of its carbon footprint but Australia can be the intellectual property centre of the world; we can provide the IP for the world to solve the carbon problem.
Dylan Brady The balance between work and family.

The client's story

We started researching Pixel in 2007 and we knew Dylan from a couple of different things around the place. Dylan is an innovative thinker, he is prepared to think outside the box as, quite frankly, were the whole team we assembled. Working on projects that are innovative

and experimental you can't put down tools, we needed a team of consultants in the design – from architecture to engineering – that would really focus on the challenge and ultimately produce a solution. Collaboration is very important in this sort of endeavour, it is everything.

This building is really dear to my heart. I focused on it very closely and it would be fair to say that it was one of my pet projects. It is about our future as an organisation, as an industry and for this country's future. So while I set the task, the person who drove the project was [Grocon's development manager] David Waldren. I passed my ideas on through him and we probably had three to four presentations on the journey, as the building was created. A couple of times I saw Dylan independently of the presentation process when he wanted to advocate a particular point. But in this business you work in teams and this team had the licence to go out and create. My challenge is to get the right people together with the right culture and right thinking.

Our view is that sustainability is an area that is accelerating faster than most people realise. Certainly Pixel is the greenest building in Australia [it has a six-star Green Star rating] and globally it is up there but it will get out of date quickly and we are under no illusion as to how quickly this is happening.

We had some experience in this area. We built the AXA building [in Melbourne] where we were originally contracted to do a four-star [Green Star] building but the people at that site went a bit harder and got a five-star building and, by the time we had finished that building in 2006, had you not built five-star Green Star you had built obsolescence. It is a big shift that started to happen very quickly. Now many new buildings are six-star.

But we wanted to go further and we saw that building Pixel was very important, not just from us understanding how to design and build a carbon-neutral building but also as a big support to our marketing function. We provide new office accommodation for tenants and they need to see what the future looks like. By showing them Pixel they are encouraged to future-proof their properties and their investment. But let's put this in perspective – 80 per cent of the building stock in Australia is a much lower standard than five-star Green Star. The big challenge is to have the standards of Pixel flow across the market.

First impression of building

It was, I thought, a very odd building when I first saw it. It had a very different façade. The look [with multi-coloured sun-shading panels] was there right from the start, I hadn't seen sun-shading addressed like that before so I thought it was interesting, but as you get into the building and understand why the sun-shading is there and how it works, it is actually quite sophisticated. Yes, it was different but when you understand the argument in front of you, and you understand the reason behind it, your appreciation for it changes immediately.

The real secret to Pixel, though, is that it has created a renewable energy power station ... but that renewable energy power station just happens to be on top of an office building. Once this works into the market more, I can see every building in Australia having its own renewable energy station. Pixel proves it can be done. The technology will improve so, over time, the wind generation and energy harvesting [on the roof] will get more efficient.

It's interesting how the idea of sustainability is changing our thinking. When we built Eureka [in Melbourne; known as the tallest building in Australia], people used to say: 'Oh, shadows.' But tall buildings are very sustainable as you actually reduce your ecological footprint. They are very efficient in terms of use of land mass. So from that perspective they still have a basic fundamental reason for being. But from an energy-function perspective, an energy-harvesting perspective, they are outdated. I think that is a challenge for 80 per cent of the building stock in Australia. There is a huge opportunity for the industry in how they go about decreasing energy and carbon footprints in their building design.



Dylan Brady (left) and Daniel Grollo.

At the moment I am living between New York and Melbourne. My wife Kat and I always had an agreement that at the age of 40 I would spend a year on sabbatical with her in New York. The kids [aged 7 and 11] are having a great time at school in New York, and we've done and seen a whole range of different things. We go to the theatre a lot, for example – seeing Denzel Washington in a live performance last June was pretty special.

The balance for me is a bit difficult. I go to New York for a couple of weeks and work from there each night [starting about 8pm, to fit in with Australian morning] and then come back to Melbourne for a couple. It is a life experience but I also look at the property market there, it is knowledge I can bring back home.

We are doing some work in the Middle East but I would describe it as a presence rather than a big operation. We are wrestling with a couple of things at the moment – it is still a very significant part of the world with large amounts of capital so no doubt there will be some fabulous opportunities there in the future. What we do over there is provide building systems and consultancy on building very tall buildings, so we are not a builder there in the same way we are in Australia. We have our systems on about 12 very tall buildings over there. China? No. It isn't our primary focus.

Our primary focus is Australia. However we operate off-shore is not how we operate in Australia. You talk about global reach but our global reach can only ever be by way of intellectual property, so it is about sharing our intellectual property as far and wide as we can.

Greatest achievement?

I think to be at the forefront of sustainability of our industry in Australia. There are some ideas that we pioneered. We have a new kind of concrete, which has 50 per cent less carbon in it, and we did this from the grass roots. So there is the concrete, there is the wind turbine, there is the water... they are the three big new things there.

Greatest frustration?

Everything in the building is a growth thing for us. I think when we reflect on that building a lot will be changed next time ... and mainly it will be about more efficiency. It will be about getting more from the building.

The architect's story

I had been cold-calling David Waldren for probably about four months and then we had lunch date, which he called to cancel, and I said: "Hey, no, no, no. I am just going to come down and buy you a cup of coffee and talk to you." I couldn't let this opportunity go. It led to me meeting Daniel Grollo and David Emery [Grocon's general manager (engineering)] and other key players.

They hired us to do some work on a project in Sydney, then this project came up. They had a small block on the larger Carlton United Brewery site in Melbourne, which they couldn't quite make work, but they had aspirations to build a sustainable showcase project. So this is how Pixel started. We were offered the job and we were intrigued with the idea of trying to make it carbon-neutral. Also it

is such a small site, so it was a challenge in a lot of ways.

Daniel's always got an interesting take on whatever it is you're thinking about and he's often one step ahead. He's got a long-term engagement with his business and thinks about a lot of things like legislation, costs, the whole picture. What we met in Daniel was a great collaborator, he was quite prepared to let us do the bits we are the best at – designing Pixel – and hold us to that, and we were quite prepared to let him do the bits he is best at and hold him to that.

Pixel is a very experimental building – a laboratory – that has grown out of complex collaboration. The communication that has to go on around that table is something that roughs the diamond down to be exactly the thing that everybody is happy with. The builder has a clear position on some [aspects], the developer has a clear decision on others, the environmental service engineers have another position and we have our position. The design process then reveals what makes the most sense on things – like where to put the solar panels? On the roof or on the facade?

Presenting the building to Daniel

The emotional response to this building is driven a lot by its facade. We argued strongly to make sure that the project didn't look like any other project and when we first presented it there were a lot of raised eyebrows. I think it was the colours, initially, but we were adamant that the colours were extremely important and we did a lot of work getting it right. There are about

The building collects all its own water; it has solar panels and wind turbines on the roof

nine colours and the trick is in how they are distributed.

The building itself is really simple. It is effectively a glass box but it has a lot of environmental tricks in it and the facade integrates many of the environmental ideas, such as the solar control and the wet-planted living-edge – which looks like a creek – and its role is to filter the water. The building collects all its own water and recycles it all. It also has wind turbines and solar panels on the roof. It is completely self sufficient. [The CSIRO and University of Melbourne have substantial projects measuring energy use and water recycling in this building.]

In our practice we try to not do a bit of architecture and then have an engineer come along and whack his engineering on it. We try to think about all of these things together. The Pixel project is unique because it is so refined and so small and integrated, there isn't a vast amount of additional services equipment put into the building. In many instances, the building is the services, the floor is the duct, and so on. The aesthetic for us in Pixel was trying to do as much as possible with as little as possible.

One of the really important things about Pixel is the

concrete, which was developed for this project. It has 50 per cent less carbon dioxide emissions embedded in it than other concrete. This is an incredible development in the building industry and we want to work with this on larger projects. When we roadshow a project like Pixel through China, for example, one of the things that most of the Chinese construction and development people come up and talk to us about is the concrete. Our Chinese clients are extremely committed to reducing their carbon footprint.

I am working in China about one week a month and there is a great character-to-character relationship between Australians and the Chinese, as well as a great person-to-person relationship. I think one of the reasons we've been so successful in China is that we place extreme importance on our culture of enthusiasm, in receiving a brief and pushing a client to increase their aspiration. People are responding to that.

Our design sensibility is letting us deliver extraordinarily interesting projects very quickly, which is a big thing in China. If we win a competition and we have two weeks to do it, we come back with a really

resolved scheme, with a fly-through and a book, the whole scheme. The clients can see that we will deliver something that raises the bar, that we are not just saying, yeah, it is just another tower, another project.

I think a lot of Australian culture has given me the freedom, the knowledge and the bravado to go out there and go for it. We have very few boundaries. If we were restricting ourselves to working only in Australia we would be doing houses.

Architecture is a giant game of Chinese whispers. I have an idea, I sketch it and then tell the team, who interpret it. Then the builder interprets and it gets built, then somebody walks up to it and has their interpretation of the project. If, after all that, it is vaguely like my original idea, then the Chinese whispers have succeeded.

Greatest achievement

To actually make a building that can put a tick next to all of its aspirations, to physically have an object there. Everyone thinks that when you finish a building that it is finished. Actually, with this building, the finish is when it starts. The lessons of Pixel we will learn over the next four to five years, so we are still with the project, we are not walking away from it all.

Greatest frustration

The exterior is not as finished as I would like it, the colour match is not good. There was a last-minute drop in the quality of some finishes in the building because of time and budget considerations. There are a lot of politics in architecture.



Janne Ryan is an ideas curator. She produces By Design for ABC Radio National and is the executive producer of TEDxSydney2011.