



GOING GREENER

WITH THE NEW ZEALAND ECONOMY BACK IN GROWTH MODE AND DEVELOPMENT ACTIVITY GATHERING MOMENTUM, SUSTAINABLE BUILDINGS AND GREEN STAR RATINGS ARE BACK ON THE RADAR AGAIN

Geyser... New Zealand's first 6 Green Star rated building. *Simon Devitt Photographer*

The movement to greener buildings was just beginning to pick up a head of steam in New Zealand in the mid 2000s when the Global Financial Crisis pricked its bubble. With the corporate sector under the pump for perceived “excesses” of the past, owning or occupying an expensive looking, state-of-the-art building – no matter how environmentally friendly – was not necessarily seen as a good thing in more chastened and challenging times.

With the bean counters also once again firmly in control of the purse strings, accommodation cost containment, cuts and rationalisation became the order of the day and moving to new and better premises slipped off most company agendas.

Perhaps an even greater upheaval followed in the wake of the Christchurch earthquakes. Suddenly a building's seismic rating, which had previously been of little consequence or interest to anyone outside of Wellington, rocketed up to the top of tenants' check lists and became far and away the most

important consideration when looking at accommodation options.

However, now that the economic environment has settled and New Zealand is on a growth trajectory again, sustainability and environmental considerations are slowly but surely coming back into focus. While a Green Star rating may have slipped down the priority list for tenants, it is back on the radar again as part of their consideration of an overall leasing package.

The increase in development activity that has followed the economic recovery has also upped the profile of green buildings, with new, higher benchmarks being set. New Zealand's first 6 Green Star design-rated office building – Geyser – has opened its doors in Parnell, and a number of other four and five star rated buildings have come on the market.

Meanwhile in the unlikely rural setting of Taneatua, in the Bay of Plenty, just about as far away as you can get from big city New Zealand, work is nearing completion on the most ambitious

sustainable building in this country. It is the first to be designed to meet the testing global Living Building Challenge standard of running on net zero energy, water and waste. Designed by Jasmx and project managed by Arrow International, the \$12 million building will be the new administrative centre and meeting place for Tuhoe Iwi.

It's been barely seven years since Green Star certification kicked off in New Zealand – just before the GFC hit. New Zealand has not been an early adopter of green building practices, New Zealand Green Building Council (NZGBC) chief executive Alex Cutler concedes. “But we are seeing the majority of new building developments in the current environment recognise the value of green features for energy efficiency and for staff productivity.”

For the country's most active developer of office accommodation over the last couple of years, Auckland-based speculative builder Mansons TCLM, a 4 or 5 Green Star rating has become a standard feature of its offering to tenants. →



The GHD Building in Freemans Bay... one of a number of Green Star rated buildings developed by Mansons TCLM.



The green wall... the 5 Green Star Westpac on Takutai Square Building in Auckland's Britomart precinct.

"There's a perception that green buildings are more expensive but that's not true and they are now essentially best practice for delivery of office accommodation," says director Culum Manson. "They provide companies' consultants and facilities management teams with the tools to reduce waste and increase operational efficiency. Also, we are seeing a wider global corporate requirement from offshore owned businesses to comply with a sustainability standard, which the New Zealand Green Building Council rating system delivers."

To date, the adoption of green buildings standards has been market led – hence the reason why it lost some impetus following the GFC – rather than regulation driven. This contrasts with some European countries where minimum standards are being put in place. In the UK, for example, all new public buildings will be required to be built to a zero carbon standard from 2016, and all new non-domestic buildings from 2019.

In New Zealand, the closest we have come to compulsion is a proposal in

Auckland's recently notified draft Unitary Plan which requires all new office buildings in the city over 5,000m² to be built to a minimum 4 Green Star rating. This is a reduction from the original draft plan, which would have required compliance with the demanding 5 Green Star rating.

However, this reduction still hasn't appeased the development sector. The Property Council of New Zealand, which represents New Zealand commercial property owners and developers, has been supportive of a move to greener builders, holding a biennial green property summit in conjunction with NZGBC. But it is also a strong proponent of less regulation and believes it is unreasonable to expect all buildings to be developed to this standard.

"It hasn't been thought through properly and Auckland Council has picked a tool without really understanding it," says Property Council chief executive Connal Townsend. "It's a (building) rating system but they're trying to bash into a compliance regime and it doesn't fit. We are also not convinced that legally they

can do what they are proposing because the Building Act was established by central Government to set the standards for design and construction. In our view it is an inappropriate provision to have in a council plan."

However, Auckland Councillor Wayne Walker is unrepentant saying the move will actually save businesses money in the long run. "When you build a better



NZGB's Alex Cutler... "the majority of new building developments recognise the value of green features".

building, a building that is healthier for staff – with less staff turnover and higher productivity – and which has lower energy and water costs, you get a good payback. You also get a building that's much more valuable."

While they may not necessarily agree with the element of compulsion, there are plenty of green proponents within the business community echoing Walker's sentiments. At Fletcher Construction, senior services manager Gemma Collins says most commercial clients appear to have a good understanding of Green Star and sustainability initiatives. "Interest in green buildings is definitely growing. Personally I am finding clients are keen to implement green practice into the design and operation of their buildings – including speculative builds."

Many leading organisations are starting to use their workplaces to secure competitive advantage, says Collins, and – with competition for people heating up again – to attract and retain talented employees. "Creating a great healthy working environment – and saving money on energy usage, too. It's a no brainer."

Jasmax sustainability officer Jerome Partington says while more clients are expressing an interest in "green" buildings, they are often not sure what they're asking for. "If you look at the big picture, things like saving on energy and water are fairly easy to achieve. Actually creating a healthy environment for building users pays way bigger dividends than saving a bit of energy. There's also the issue of aesthetics – beautifully designed and healthy buildings are appreciated and better cared for."

The tally of certified "green" buildings in New Zealand now stands at 79; a further 35 are registered and going through the certification process. And while there's more up-take in the new building market, green retrofits are also proving their value, says Cutler. "Applying sustainability principles to the retrofit of buildings costs less in the long run, prepares your portfolio for future changes in the market, such as energy price increases, and positions you as a market leader."

So why isn't everybody doing it? Perceived added cost – in terms of both the building and the certification process – is one reason. There are factors that make our market different to

many others, concedes Cutler. "The cost of construction is higher, buildings tend to be smaller and there are more owners. Additional factors such as an energy sector that is largely based on renewables means that the pressure to recognise environmental benefits is less. Although the financials stack up, they may not be quite as advantageous as they are in other countries."

However, as more property owners take the plunge, the cost structures (including longer term paybacks associated with green technology and product life cycle analyses) will become a lot clearer – and the associated risks diminish, says Partington.

"The key is to have good exemplars built so people can see what is possible. It allows others to follow more quickly because they have the confidence that it is achievable and the outcomes are there to see."

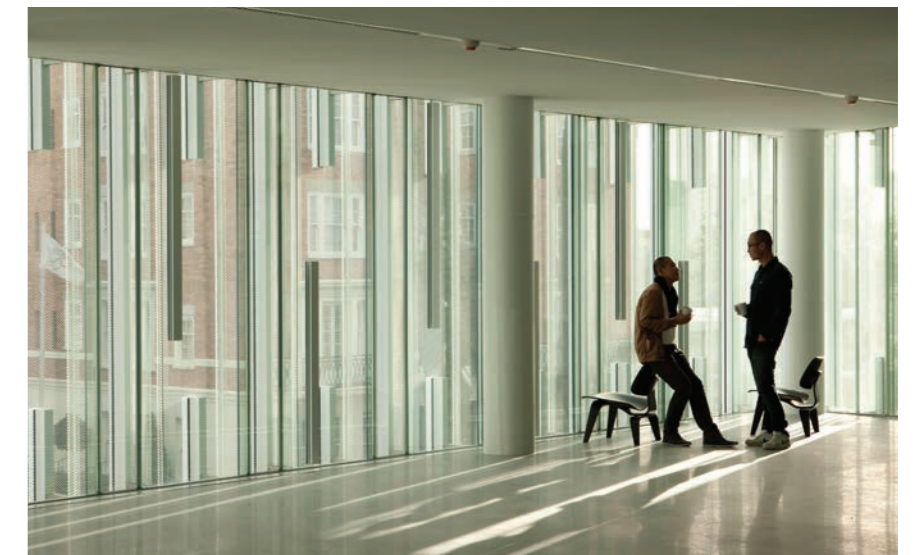
Partington reckons New Zealand offers a perfect climate for green building options.

"We have such an incredible climate – bountiful solar, very moderate temperature swings. If you understand the climate, work with it and spend wisely, then it will give you great results for no extra money. I don't think people are really cognisant of how easy it is to deliver high performance buildings in this country."

From a strategic standpoint, the benchmarks for building performance will continue to rise and those who are not already planning to meet them risk losing market edge, says Cutler. She describes the move to green buildings as "an evolution in learning".

"Once you've applied green principles to your building, you're unlikely to go back as the result is a more efficient, productive and enjoyable building to be in."

Neil Prentice, Vicki Jayne ←



Setting a new benchmark... inside the Geyser in Parnell.



A nice place to work... inside Westpac's 5 Green Star building in Auckland.



NOT JUST ANOTHER OFFICE BUILDING

Auckland property company Samson Corporation has not been afraid to push the boundaries when it comes to developing office buildings and its latest creation, the Geyser in Parnell, is another example of that.

There's not an airconditioning unit in sight in New Zealand's first 6 Green Star design-rated office building; instead the complex's innovative double glass façade controls the temperature and air circulation.

Designed by Patterson Associates and developed by Samson Corporation, the Geyser Building at 100 Parnell Road breaks many of the conventional norms of office building construction.

For a start it's not a single structure. It comprises five office and retail sub buildings totaling 5,000m², linked by a laneway pedestrian system with a central courtyard. The buildings are separated to provide light and air in between for passive lighting and better temperature and air circulation control for each tenancy.

There's no carpet either, with concrete floors left exposed to make best use of their thermal mass. Tenants breathe 100 percent fresh air (compared with around 25 percent in a traditional building) and there are no space gobbling plant rooms for heating and cooling services.

The twin skin façade dampens or modifies the more extreme temperature variations experienced externally. This enables the building to heat itself by trapping warm air between its walls in the winter, while in the peak summer months the entire outer skin can be opened electronically for full ventilation and overnight cooling of tenancy spaces. This has been estimated to reduce peak daytime temperatures by two to three degrees.

The twin skin façade's high performance glass traps the sun's solar energy in winter and the outer façade closes down permanently to provide additional thermal insulation. Vents at its top and bottom can be modulated to provide adequate fresh air while minimising heat loss. Occupants can then tap into this heated blanket by opening a sliding panel.

The outer façade is fully automated and is operated by individual actuators coordinated by the building's management system's central computer. The computer is continually fed information by internal temperature sensors and meteorological information collected on the roof. It responds by adjusting the angle of the outer glass panels to control airflow. Wind

and rain sensors override the opening of windows in the event of bad weather. The building management system also enables tenants to analyse trends in their power usage and recognise possible wastage problems.

An additional innovation has been the installation of an automated car-stacker system in the basement to minimise excavation and reduce energy consumption from the lighting and mechanical ventilation of traditional underground car parks. In addition the stacker system, which provides parking for 182 cars, has a number of carparking spaces purely for use by smaller cars.

"You park in a virtual garage and then a turntable spins the car around, loads it onto a lift and takes it to an available space," says Samson Corporation general manager Marco Creemers. "You just swipe your card when you come back and the machine finds and returns your car for you."

In addition to these features, Geyser has some of the more standard attributes that go with modern green buildings including solar water heating for all tenancies; recycled rainwater for supplying toilets and irrigation for a vertical green wall and outside hose pipes; low flow water fixtures to reduce water consumption; waste recycling facilities; and cycle parks and shower and changing facilities.

As a result of its many eco-features, the building uses nearly one third less energy and about half the amount of artificial lighting and water of a standard office building of comparable size. Although, it was developed on a speculative basis without any occupant precommitment, it has attracted plenty of tenant interest with the office space over 90 percent leased.

Asking rentals averaging \$380/m² also belie the perception that green buildings are more expensive for tenants, says Marco Creemers, particularly when you also factor in the lower Opex costs than for conventional air-conditioned office space.

But it's more than just about occupancy costs says tenant Andy Schick, market manager for The Network for Learning. "It's a delight to be working in a building that is looking after our, and our planet's, health. Knowing our company has a lighter impact on the environment we live in is a satisfying feeling."



Take a walk... pedestrian laneways link the Geyser's different "parts", with the space in between also enhancing light and fresh air access. Photograph Alex Wallace

The building has also been recognised with a string of industry awards including the Resene Green Building category at this year's Property Council New Zealand Rider Levett Bucknall Property Industry Awards. It also took out the Commercial and Sustainable Design categories at the 2013 New Zealand Architecture Awards.

The Geyser Building's 6 Star design rating denotes international standard innovation and excellence but it wasn't something architect Andrew Patterson gave any thought to when the long process of designing the building began.

"All the certification does, really, is validate our approach. Although putting tick-box measuring in place is helpful because you have to be able to measure things, I think we have to look at buildings more holistically.

"The 'parti' of a building – its concept or shape – needs to respond to simple things like sun, energy and light, rather than just taking a conventional building and putting in bicycle racks. The missing piece in sustainability is about quality, beauty and permanence, because without this, no building can be truly sustainable." ←