

# FULFILLING green PREMISES

## BUILT TO LAST

Corporate New Zealand is increasingly demanding sustainability in its building projects and the Government now requires all new public sector property to meet green standards. What are the benefits? And what does the future hold in terms of regulation? by Ellen Read

The 'green building' party has been taking place quietly in the New Zealand kitchen for some time but began to spill out to the deck last year with the formation of the internationally-recognised New Zealand Green Business Council (NZGBC) and its Green Star NZ rating system.

Green Star NZ, released in April this year, is the country's first comprehensive environmental rating system for buildings. It evaluates building projects against eight environmental impact categories to determine how many Green Stars (from one to six) the building warrants. There are four stages at which applications for ratings can be made: new design, as built, in use/performance and interior fit out. The local measurements are an adaptation of the Australian Green Building Council system, which in turn is based on standards in the UK and US.

Meridian Energy staff in Wellington will this month move into what's been dubbed the country's 'first green building'. The label is somewhat of a misnomer as the design is still going through the accreditation process – as is an Auckland building which will house BNZ staff. Jointly, they

can claim to be the first to apply for Green Stars, aiming for five each.

Developed on the Wellington waterfront, the building in which Meridian will be the main tenant, is designed to use 60 percent less energy and 70 percent less water than comparable office space. Its features include solar hot water heating for bathrooms and showers, solar panels to generate a small amount of electricity, rain water collection for flushing toilets and a computerised building management system that will automatically adjust windows, lights and air conditioning to outside conditions.

Buildings for the BNZ – including 80 Queen St in Auckland where bank staff will occupy the first eight floors – are also aiming for greater sustainability. It's the right thing to do, explains project manager Wendy Jones.

"It's socially responsible. It's expected from the public as well as from the people within the bank. Stakeholders are expecting it too."

Jones says every single item within the buildings is sustainable, from the wood for the tables through to the office chairs which

are returned to suppliers at the end of their life, to be recycled into other products.

Chief executive of the Green Building Council Jane Henley expects the Meridian and BNZ buildings to complete their certification process this month, making them the first to be certified under the Green Star system. (New Zealand already boasts some "green" buildings – the Department of Conservation and Landcare buildings in Wellington are examples – but these don't use the Green Star system.) Heritage Hotels is also planning a green conference centre for Queenstown.

While there are numerous reasons to choose a green building, three strong contenders are cost, productivity and regulation.

**DOLLARS AND SENSE** In the past it has cost up to six percent more to design and build a sustainable building. However as the community involved has grown, economies of scale have kicked in and a green design can now be brought to life at no extra cost.

Sustainable buildings are intrinsically more economic to run over their whole lifetime as they reduce waste and are much



A detailed architectural rendering of a modern skyscraper with a glass facade, situated on a city street. The building features a mix of glass and dark, textured panels. Pedestrians and cars are visible on the street level, and a paperclip is attached to the top right of the image.

## ENVIRONMENTAL WEIGHTING FACTORS FOR GREEN STAR OFFICE DESIGN

Management	10%
Indoor Environmental Quality	20%
Energy	25%
Transport	10%
Water	10%
Materials	10%
Land use and Ecology	10%
Emissions	5%
TOTAL	100%

Source: [www.nzbgc.org.nz](http://www.nzbgc.org.nz)

renovation of 80 Queen Street, Auckland.





## HAS IT GOT A HIGH IEQ?

How to define a green building? Beca's Alan Barbour says the true definition is probably a "building designed to be constructed and operated more in harmony with nature". But in the current construction terminology a "green" or "ecologically sustainable designed" (ESD) building is one designed, constructed and operated to achieve a healthy and effective indoor environment, in an environmentally responsible manner.

Its practical facilities can be quite varied but features typically associated with green buildings include the following, says Barbour.

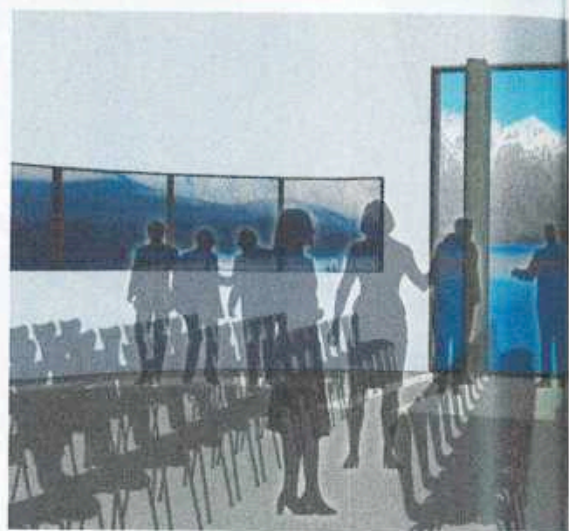
- High internal environment quality (IEQ): this includes enhanced fresh air ventilation; external shading and high performance glazing to improve comfort and reduce energy use; good access to views and natural light; high quality HVAC and lighting systems design; extract systems for kitchenettes or copier rooms.
- Reduced energy use and carbon emissions through: energy recovery; low energy HVAC systems; natural ventilation where appropriate; daylight compensation lighting controls; automatic control and monitoring of energy use; highly insulated building envelope; and solar water heating.
- Reduced resource use through: more efficient design; integrated design; and integrated fit out design and installation.
- Use of environmentally preferable materials including: local materials; sustainably sourced timber; Environmental Choice products; recycled materials
- Reduced waste with waste management plans in construction to divert waste going to landfill
- Reduced emissions and pollution via reduced fossil fuel use; using refrigerants and materials with zero ozone depletion potential; and reduced emissions in manufacturing
- Reduced freshwater use by installing water efficient fixtures and fittings, combined with rainwater recycling for WC flushing
- Encouragement of sustainable transport options by choosing a location well served by public transport; fewer car parks; use of fuel efficient cars and facilities for cyclists
- Empower management to monitor and target the objectives in the operation of the facility by building user guides including the metering of energy and water use.

more efficient in their use of resources such as land, energy, water and materials. As energy prices continue to rise, sustainable buildings will become increasingly attractive. Not to mention the attraction of avoiding additional user charges such as carbon taxes.

The Ministry of Economic Development is firmly on board with the money

argument saying the value case for sustainable building is compelling: "For owner occupiers, a 20-year whole-of-life cost view indicates the marginal cost increase of sustainable building is likely to be repaid between five or six times by operating cost savings alone," the Ministry stated in a report it prepared on sustainable building. And that was when there were extra

BNZ's planned Wellington office.



costs to building green – costs which are no longer incurred.

For tenants, the probable 20-year rental premium for sustainable buildings is likely to be repaid by a factor of approximately three from operating cost savings only, according to MED.

There is also funding assistance available: public sector clients can apply for 'Crown Loans' to offset any capital cost premiums associated with adopting sustainable building strategies. Part funding is also available from the Energy Efficiency and Conservation Authority (EECA) for design audits and modelling which test the cost/benefits of sustainable building.

**PRODUCTIVITY** Not only is the Green Business Council adamant about the employee



productivity benefits of occupying a green building, employers are optimistic too. Green buildings, they say, will be healthier and more comfortable, meaning they encourage greater productivity in workers via improved natural light, cleaner air and a higher degree of personal control over the working environment.

"The indoor environmental quality is amazing so, literally, people will have

a higher quality experience in terms of working in these environments," says BNZ's Wendy Jones.

**LEGISLATION AND THE FUTURE** Kensington Swan lawyer John Meads looks down on the new Meridian building from his Wellington office. He has been increasingly engaged this year to work on lease agreements for Green Star provisions. He is also acting for Government departments in Wellington following its July announcement that all new A-grade office buildings being constructed to house government departments in central city areas must have a minimum five star Green Star NZ rating.

Meads lists the benefits of occupying a green building as fitting in, or aligning, with the ideology around climate change.

"I think to a large extent the whole thing at the moment is tenant driven. Tenants want to make sure that apart from being responsible citizens in terms of climate change generally, they want the best for their staff. They want their staff to be working in a light, modern, efficient, well designed space. They see it almost as a recruitment tool."

Meads says the pending writing of a new building code is likely to increase focus on green buildings.

"I don't think it will cross refer to the Green Building Council's rating system but I think it will have an enhanced focus on sustainability. That will be the start of the legislative process."

Meads thinks we're a long way from having legislated green building requirements but says it's always possible the government could start to act on things like water or electricity.

"Some specific things might be legislated but I think overall legislation on green buildings is a long way off," he says.

The Green Building Council's Jane Henley also doesn't see it becoming mandatory any time soon: "Green Star, as far as we're concerned, is always going to be an industry-led voluntary tool. It can potentially be used for incentivising with subsidies and tax breaks, which it will be at the local council level to encourage the use of it. Our hope is that over time, regulatory standards will come closer to our voluntary ones. We're the carrot, they're the stick and eventually our standards will become normal practice." **M**



Sage Hotels' planned Queenstown building

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