

THE GREENHOUSE

It *is* easy
being
green

5 star rating



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**GREEN
BUILDING
COUNCIL OF
AUSTRALIA**



“The GreenHouse demonstrates that even small and fast fitouts can achieve high environmental standards and a happy, healthy working environment for employees.”

Romilly Madew, Chief Executive, GBCA

The Green Building Council of Australia's (GBCA's) headquarters in Sydney is proof that it can be easy being green.

The GreenHouse achieved a 5 Star Green Star - Office Interiors v1.1 certified rating in July 2009. The fitout took less than five months to complete and was delivered on a budget of just over \$1.3 million – demonstrating that even small and fast fitouts can achieve high environmental standards and a happy, healthy working environment for employees.

The 804m² space was chosen for its potential as a showcase for sustainable building initiatives, and to support the GBCA's rapidly expanding team and dynamic culture. The office space on the 15th floor of 179 Elizabeth Street features a high quality floor plate – with maximum access to daylight and views. Being in the heart of the CBD, the office is close to public transport, helping staff keep their cars off the roads.

Bligh Voller Nield (BVN) designed the fitout, Lincolne Scott provided engineering services, Schiavello project managed and Total Image Interiors delivered building works. Davis Langdon provided ongoing cost management and control.

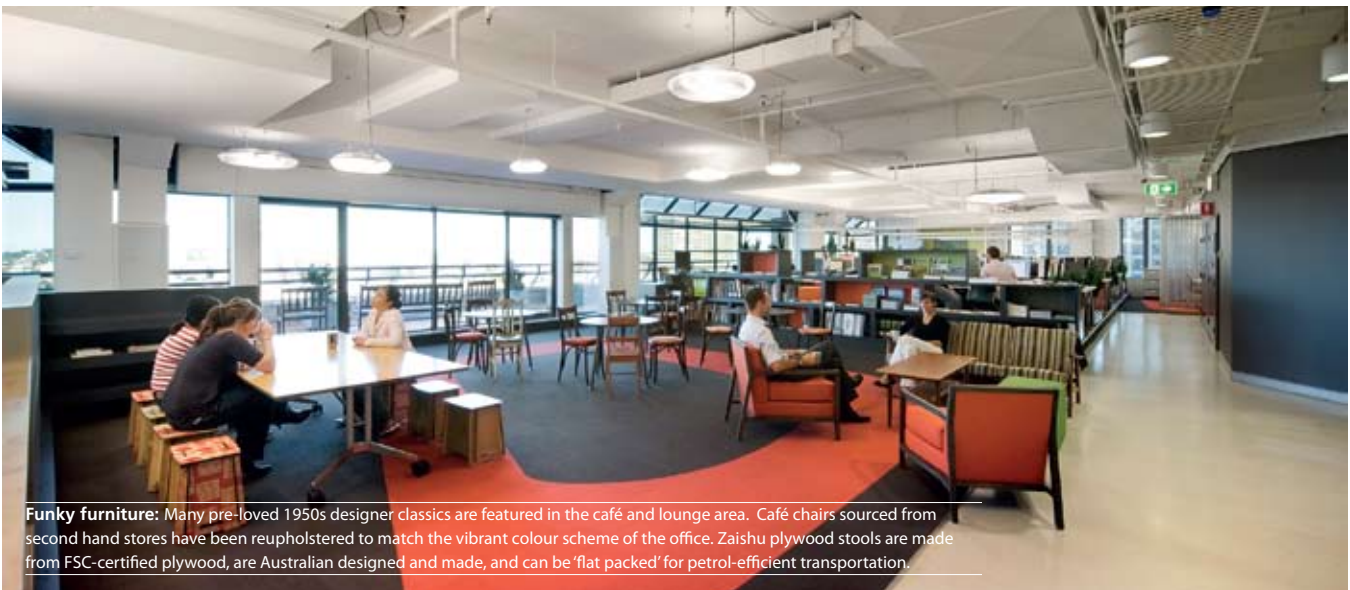
The design of The GreenHouse embraced the concepts of 'reduce, reuse, recycle' – ensuring the GBCA stayed true to its values and delivered a truly green interior. The GBCA reduced the amount of plasterboard and ceiling tiles required by leaving ceilings exposed, reused items from its previous tenancy, and sourced second hand furniture such as café chairs and lounges in the common area, where staff now share a bite to eat and discuss green ideals.

The open plan office space enables staff to interact, and reinforces workplace equality. It also ensures that all employees have access to natural light and the fantastic external views the building location affords.

A range of sustainable initiatives was included in the fitout. Most notably, a greywater reuse system was installed for toilet flushing, while light shelves reduce radiant heat loads and a raised floor provides a displacement ventilation system.

Inexpensive green initiatives include a compost bin and worm farms – The GreenHouse has two, both of which are fed by food scraps generated by the GBCA staff. A living green wall is featured behind the reception area, serving both a functional and decorative purpose. The plants act as bio-filters, converting CO₂ into oxygen, bringing the outside environment inside the office, and providing a living curtain to separate the kitchen from workspaces.

The GreenHouse embodies the principles of sustainable building, and is used as a teaching tool for visiting project teams.



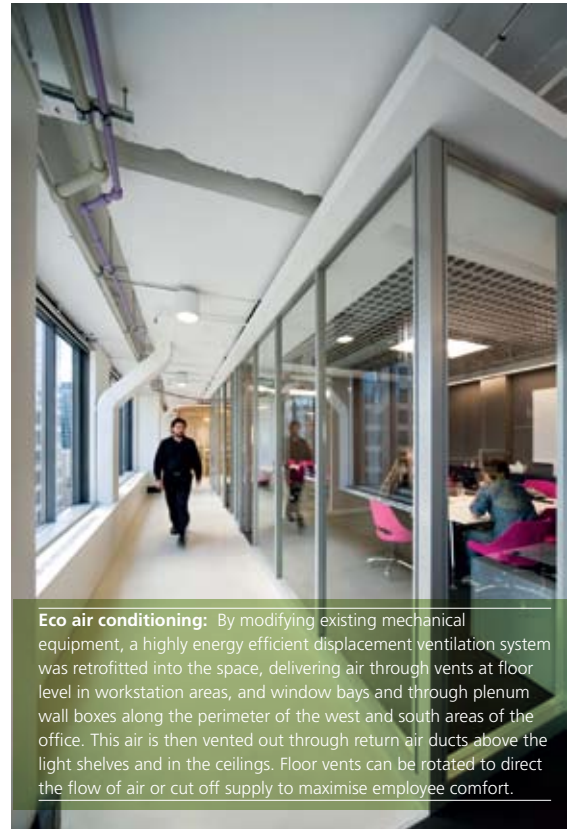
Funky furniture: Many pre-loved 1950s designer classics are featured in the café and lounge area. Café chairs sourced from second hand stores have been reupholstered to match the vibrant colour scheme of the office. Zaishu plywood stools are made from FSC-certified plywood, are Australian designed and made, and can be 'flat packed' for petrol-efficient transportation.



Space for green thinking: Workstations and meeting tables are from Schiavello and are made from low formaldehyde board (E0 Board). Workstation pin boards are made from recycled PET bottles.

ENVIRONMENTALLY AND ECONOMICALLY SOUND

Trade description	% of budget
Demolition	0.37
Internal partitions	4.73
Ceilings	4.26
Floor finishes	7.17
Painting	1.03
Joinery and FFE	10.73
Workstations	6.18
Electrical	11.96
Mechanical	17.51
Hydraulics	5.22
Fire	2.35
Preliminaries and margin	8.58
Long service levy	0.21
Construction certificate fee	0.13
Section 61 fee	0.65
Professional fees	18.91
Total	100%



Eco air conditioning: By modifying existing mechanical equipment, a highly energy efficient displacement ventilation system was retrofitted into the space, delivering air through vents at floor level in workstation areas, and window bays and through plenum wall boxes along the perimeter of the west and south areas of the office. This air is then vented out through return air ducts above the light shelves and in the ceilings. Floor vents can be rotated to direct the flow of air or cut off supply to maximise employee comfort.



Management

The GreenHouse fitout achieved Green Star points for the production of a tenant guide and waste management plan. Both garbage and recycling are weighed and recorded so that waste recycling percentages can be monitored. Currently, around 50 per cent of all waste is being recycled.



Indoor Environment Quality

An internal post-occupancy evaluation of The GreenHouse has found that 95 per cent of all staff had a positive or very positive perception of their new workplace. As one staff member said: "The GreenHouse is by far the most professional indoor work environment I've experienced."



Energy

The GreenHouse reinforces the claim that green buildings can routinely achieve energy savings of at least 20-30 per cent when compared with industry standards. The design intent of the GreenHouse was to keep energy use below 65,000kWh per year. Lighting and power energy use is monitored and recorded on a monthly basis, and the results point to a predicted energy use of around 48,000kWh per year, well below targets.



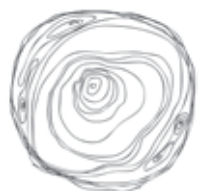
Transport

The GBCA achieved the maximum five points for The GreenHouse's proximity to public transport. A further two points were allocated for limiting the number of available parking spaces, further promoting the use of alternative modes of transport.



Water

Water-efficient dual flush cisterns, waterless urinals and 6 Star WELS- rated bathroom taps have reduced water consumption. A 400 litre greywater tank collects water from the kitchen taps, dishwasher and hand wash basins, which is treated and then used to flush toilets – with 100 per cent of greywater being reused on site.



Materials

The workstations, walls and partitions, chairs, tables, storage units and flooring used in the tenancy fitout all achieved Green Star points for their reduced environmental impact. Where possible, ceiling installation was limited to avoid unnecessary use of materials. Instead, building services and cables are left exposed. Meeting room and work areas are flexible and adaptable spaces.



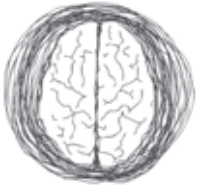
Land Use & Ecology

The GreenHouse, which occupies space in an existing building, was awarded Green Star points for lease clauses committing to improve its environmental performance. The lease agreement includes quarterly energy, waste and water monitoring and associated reduction targets. Cleaning products used to maintain The GreenHouse were chosen for their low environmental impact.



Emissions

The GreenHouse's thermal insulation avoids the use of ozone-depleting substances in both its manufacture and composition.



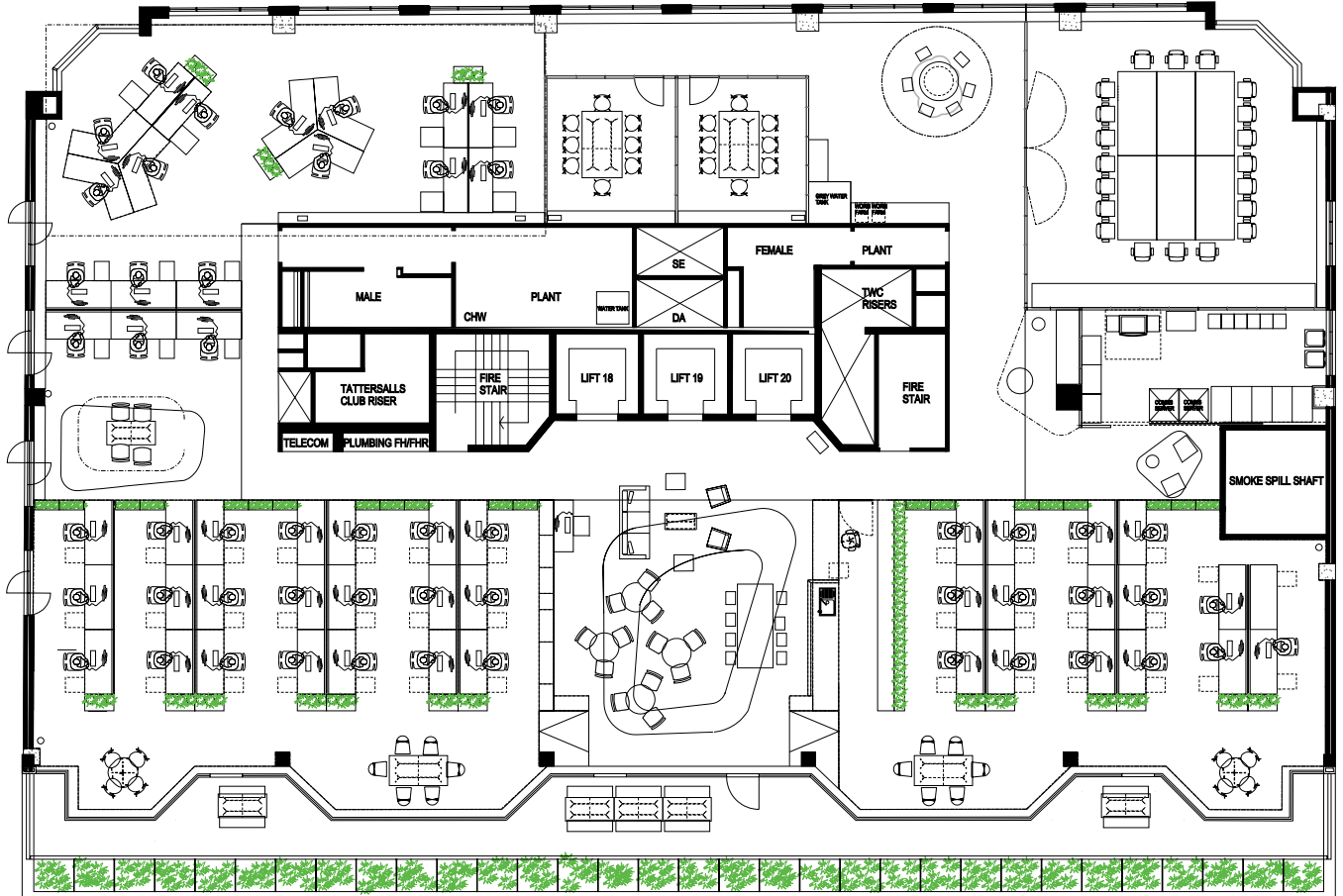
Innovation

The GreenHouse achieved an innovation point for the use of indoor plants – such as the installation of a green wall behind the reception area which provides both visual privacy and purifies the air. Additional innovation points were awarded for the greywater collection system, retrofitting a highly energy efficient displacement ventilation system and closing the loop on organic waste composting within the office.

THE GREENHOUSE

"THE GREENHOUSE"

Loose Furniture Floor Plan Image courtesy of:
Bligh Voller Nield Architecture



THE GREENHOUSE: A TEAM EFFORT

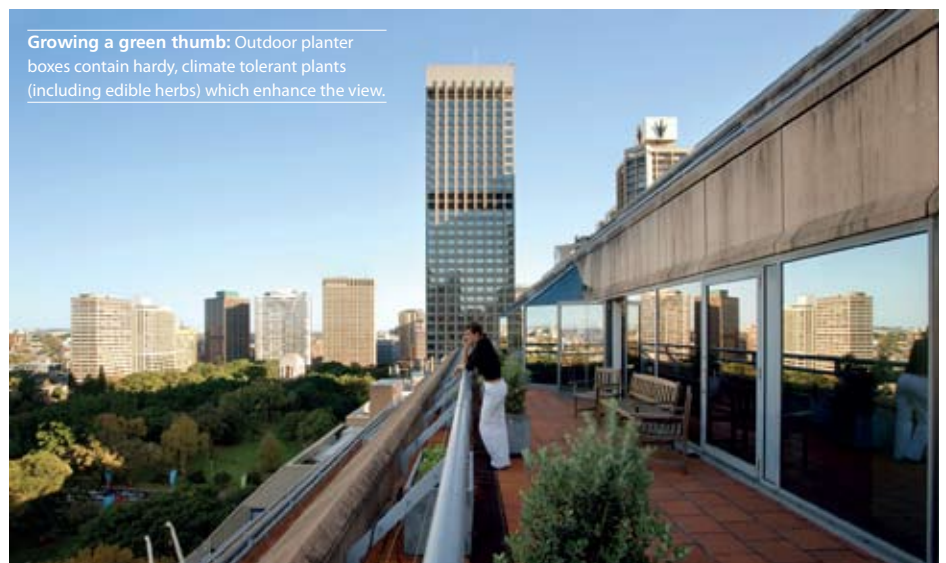
The GBCA would like to thank the generosity of the member organisations that supported the project.



Flexible spaces: Herman Miller 'Mirra' chairs were leased to the GBCA, allowing return and reuse by others in the future. The Schiavello Marina boardroom tables have lockable castors, and can be reconfigured according to meeting needs.

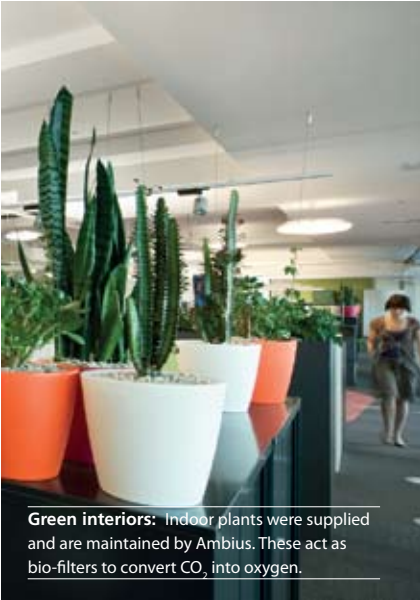
The GBCA wanted an existing building with 'good bones' to not only to save money, but also to demonstrate that a building doesn't have to be new to be green.

- BVN Architecture
- Davis Langdon
- Lincolne Scott
- Schiavello
- Ambius Indoor Plants
- Arup
- Caroma Dorf
- Credible Building Technologies
- CSM
- CSR Fricker
- Designer Paint Company
- Dynalite
- Easyrest
- ESO
- Future Floor Services
- Harveys Painting Services
- Herman Miller
- Honeywell
- InterfaceFLOR
- Interstudio
- J L Williams
- KLM Group
- Living Edge
- Planet Plumbing
- Rhodes Wingrove
- Stylecraft
- Tasman Floors
- The Laminex Group
- Total Image Interiors
- Verosol
- Wilkhahn
- Work Arena
- Woven Image
- Zumtobel



Growing a green thumb: Outdoor planter boxes contain hardy, climate tolerant plants (including edible herbs) which enhance the view.

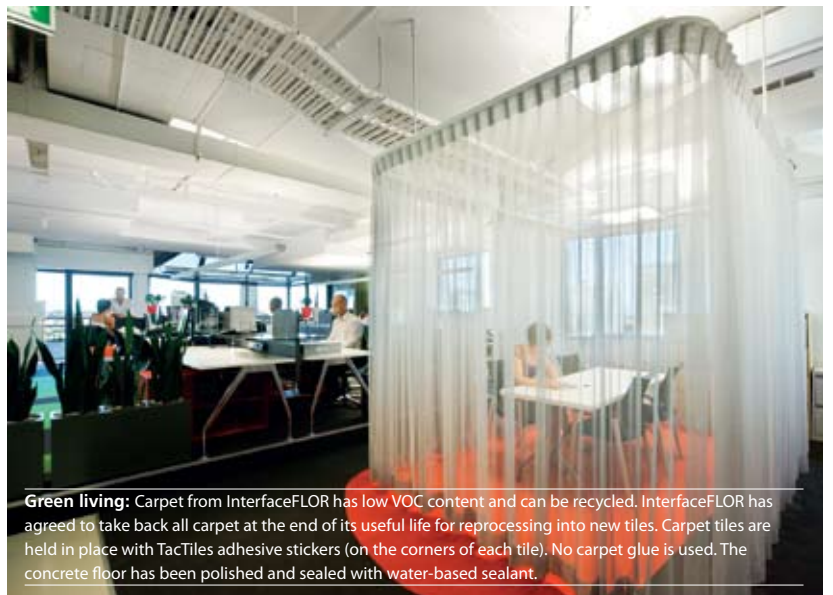
TAKE A TOUR



Green interiors: Indoor plants were supplied and are maintained by Ambius. These act as bio-filters to convert CO₂ into oxygen.

“This is a one-of-a-kind office and I feel very privileged to be able to work here. None of my previous offices have made me want to come to work.”

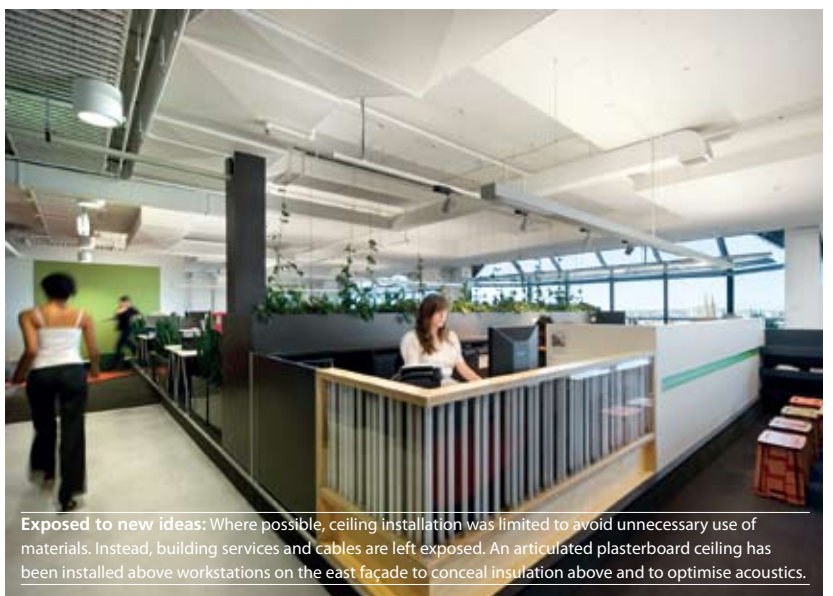
GBCA staff member



Green living: Carpet from InterfaceFLOR has low VOC content and can be recycled. InterfaceFLOR has agreed to take back all carpet at the end of its useful life for reprocessing into new tiles. Carpet tiles are held in place with TacTiles adhesive stickers (on the corners of each tile). No carpet glue is used. The concrete floor has been polished and sealed with water-based sealant.



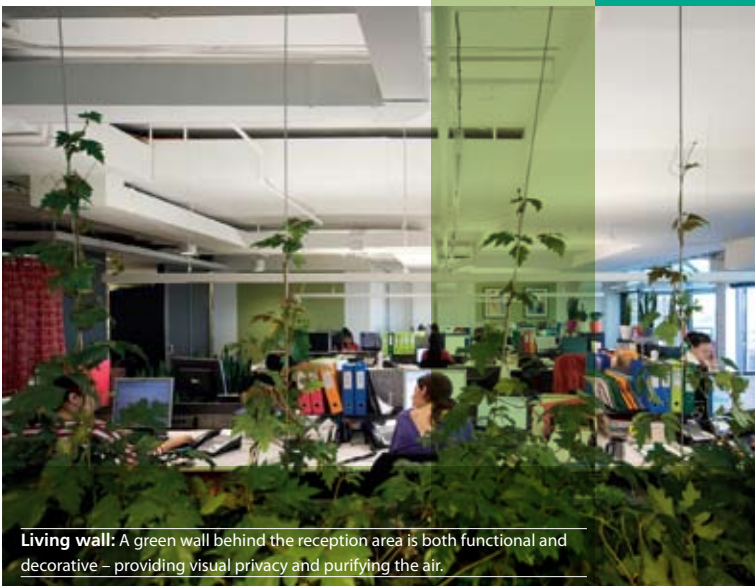
Switching to green: Lighting was provided by Zumtobel. Workstation lighting provides both task and ambient lighting in one system. Meeting room and boardroom lighting runs on a motion sensor system.



Exposed to new ideas: Where possible, ceiling installation was limited to avoid unnecessary use of materials. Instead, building services and cables are left exposed. An articulated plasterboard ceiling has been installed above workstations on the east façade to conceal insulation above and to optimise acoustics.



Green Stars for greywater: Water and other material (such as soap and food scraps) that goes down the sink or into the dishwasher is pumped along a grey waste pipe and into a greywater collection tank. All solid material is filtered out, and then the water is used for flushing the toilets.



Living wall: A green wall behind the reception area is both functional and decorative – providing visual privacy and purifying the air.

Green Building Council of Australia

The GreenHouse: It *is* easy being green
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All photos by Emma Cross Gollings
Photography

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