

Costs and savings

A broader context: green buildings here and overseas

While only limited financial data on green fitouts is currently available, a greater body of analysis relating to green buildings exists, with a Green Building Council of Australia (GBCA) report, *The Dollars and Sense of Green Buildings 2006*, drawing on Australian and international experience with green commercial buildings.

The GBCA report notes that the construction of green buildings generally incurs a small premium (in the order of 3% in Australia). On the other hand, a range of significant benefits have been documented here and overseas, as summarised in the table below.

Financial benefits associated with green buildings

Benefit	Dividend	\$ Value
Lower annual operating costs and more efficient asset management	60% reduction in water and energy consumption	\$120/m ² reduced to \$60/m ²
Increased occupant productivity and wellbeing and less staff turnover	Productivity increase of 1–25%	Saving of \$35/m ² – \$41/m ²
Higher relative investment returns	Minimum 14% ROI (return on investment)	Varies
Higher market value for asset	10% increase	Varies
Higher rents	5–10% increase	Varies

Source: Based on table, page 5, *The Dollars and Sense of Green Buildings 2006*

The following additional benefits have been identified in international studies:

- higher tenant retention
- lower risks and relative insurance costs
- reduced capital costs, including reduced construction time and variations.

Zero Waste SA's green fitout

Upfront cost

The Zero Waste SA office fitout cost approximately \$1150m² for an area of approximately 400 m². The overall goal was to achieve the greenest fitout within budget.

While choosing green meant an additional upfront cost for a range of items – including the lighting system, workstations, medium-density fibreboard (MDF), and office and kitchen equipment – longer term savings will be generated, as outlined below. The decision to retain pre-existing carpet and ceiling tiles (to avoid the waste their replacement would have entailed) reduced the initial outlay.

The limited data available from other projects suggest that some premium is paid for green fitouts. However, this needs to be considered in the cost savings such a premium can deliver over the life cycle of a building. Over time, as further data become available, it will be possible to quantify this with greater accuracy; it is also likely that the green premium will diminish as sustainable practices are employed more often, giving rise to improved efficiencies in work performance and economies of scale.

Longer term savings

Zero Waste SA's green fitout will yield future financial benefits in terms of:

- energy savings
- savings on future relocation or refurbishment
- reduction of waste-related costs
- productivity gains.



Leasing agreements and other commercial considerations will determine how the financial benefits are distributed between the relevant parties: the tenant, building manager and building owner.

Energy savings

As outlined in Electrical appliances, the items selected, including the lighting system, multifunctional device, LCD screens, fridge and dishwasher, all yield energy efficiencies. As well as reducing direct energy use, they will trim indirect energy consumption by producing less heat and a smaller load on the air-conditioning system during times of cooling. The ENERGY STAR facility on a number of devices will further reduce energy use by switching the device into low power modes during inactivity.

How much energy? While it is not possible to fully quantify the energy savings at this point, they are likely to be significant: LCD screens, for instance use less than half the energy required by the CRT monitors they replaced, and ENERGY STAR facilities can slash annual electricity costs by over 60%, in comparison to conventional practice. The fridge and dishwasher selected are expected to yield annual savings, in terms of future direct energy costs, of approximately \$120 and \$110 respectively, over the life of the fitout (savings that will grow with rising electricity costs). In both cases, the cost savings are likely to completely offset the product's higher initial cost within the life of the fitout.

An opportunity to measure savings: Those undertaking green fitouts may consider, through collaboration with the building manager, collecting and analysing energy consumption data for comparison with previous data from the same office, if available, or data for similar offices with conventional (non-green) fitouts.

Savings on future relocation or refurbishment

A fitout fit to travel! In the event of Zero Waste SA relocating or refurbishing, most of the fitout material – including the MDF, glass and eco-core timber used in furniture and fixtures – can be disassembled and reused or recycled, or simply refurbished. Given that material can be used again by Zero Waste SA or sold, the cost of any future shift or refurbishment may be reduced significantly.

Reduction of waste-related costs

The disposal of material to landfill entails significant transport and disposal fees. Such costs have been reduced in a number of ways.

Less material was used: The selection process favoured products (such as the Schiavello workstation) that are a 'lightweight' design, requiring less resources for their manufacture. That approach trimmed resource consumption and associated environmental impacts during manufacture and delivery of the products – and will also trim handling and disposal costs when they reach end of life.

It can be reused: Preference was also given to equipment, materials and construction methods that facilitate future disassembly and reuse or recycling. With much material going on to further use or materials recovery, waste-related handling and disposal costs will again be minimised.

Less was discarded at the fitout stage: Numerous design decisions ensured that less material (in the case of timber or MDF, for instance) was wasted during construction.

Productivity gains

Improvements in several environmental attributes of the office, including more natural light and better air quality, are likely to lead to enhanced staff well-being and productivity, and associated savings for Zero Waste SA.

Organisations seeking to measure such gains can do so via staff questionnaires (ideally administered before and after the fitout) and other objective indicators, including the amount of involuntary leave taken by staff, especially sick leave.