

## Skyscrapers: the next green fashion item

By HARRY BLUTSTEIN



OPEN SPACE

Ever since the Tower of Babel nudged the heavens, new skyscrapers are usually greeted with the question "how high?" There is always the ultimate prize of being the highest building in the world — even for a short time. Seldom, if ever, does anyone ask whether it is the greenest skyscraper. While the demand for environmentally friendly skyscrapers is still low, interest is growing.

In their book *Natural Capitalism*, Amory Lovins and Paul Hawkins drew attention to the excessive consumption of ecological services and resources, called "natural capital", that goes into maintaining our high standard of living. The authors argue that humans are using up natural capital at an unsustainable rate to maintain business activity.

Skyscrapers significantly deplete natural capital, and have been described by architect Ken Yeang in his book *The Green Skyscraper* as "energy-hungry parasites that feed upon the city's surrounding ecosystems, the landscape and global resources".

Don Henry, executive director of the Australian Conservation Foundation, believes companies need to seriously consider how to minimise the environmental impact of their office accommodation.

"Australia is one of the most energy-inefficient countries in the OECD, so there is significant room for improvement," he says.

To "walk the talk", ACF has commissioned the incorporation of green features into its new \$6 million Carlton headquarters, which will use 70 per cent less energy and 90 per cent less water than a conventional office building.

In pursuing this development, ACF found not only was it conserving natural capital but significant savings would be made in operating costs.

ACF's decision to commission a green office building is not surprising, but it has gained some unexpected bedfellows.

BHP's new corporate headquarters, and the Eureka Tower being developed by Grollo, both in Melbourne, will have green features incorporated into them.

BHP's decision on its new accommodation is based on corporate environmental commit-

ments, and Grollo sees such features giving the Eureka Towers a market advantage.

While these early pioneers of green skyscrapers should be given every encouragement, unless the economics of such developments show that they are profitable, few will follow.

This requires some rethinking about the economic models used for commercial developments.

The main economic benefit of green buildings is their lower operating costs. To ensure that such benefits are reflected in the financial model, skyscrapers need to be costed over their life.

In that way additional upfront capital costs of incorporating green features can be shown to be offset by operating costs.

In constructing its new laboratories, Environment Protection Authority Victoria ensured that whole-of-life costs drove the project, resulting in some radical outcomes such as use of natural ventilation in office areas instead of air conditioning, a maintenance regime based on ecologically sustainable principles, and built-in energy and water-efficient features. Other government agencies are also considering whole-of-life costings in accommodation decisions, setting an example for the private sector.

Not only are the economics of green skyscrapers becoming attractive, but the greater use of natural light and ventilation, and elimination of hazardous chemicals from fittings, make such buildings more productive workplaces. The most noticeable feature would be greater use of natural light. Less obvious green features are part of the fabric of the building or internal systems, providing energy-efficient and water-conservation features, use of plantation timber, durable or biodegradable fixtures, and avoiding fittings that emit hazardous vapours.

While there are still substantial economic, institutional and technical barriers to developing green skyscrapers, there are encouraging signs that some trailblazers have seen the need.

Harry Blutstein is director for business sustainability at the Environment Protection Authority Victoria.

