

## 2 VICTORIA AVE, PERTH SUBMITTED BY STOCKLAND

The project is the first in Western Australia to achieve a 6 star Green Star – Office Design v2 Certified Rating. The original brief was for a 5 star Green Star rating, but due to initiatives listed below, Stockland achieved the 6 star rating. It was also designed and built to achieve a 5 star NABERS energy rating.

### INITIATIVES:

- full height performance glazing across the western and southern façades of the building maximise access to natural light and views
- operable louvres which respond to solar detection on the western façade reduce internal heat loads, allowing 100 per cent shading at any one time. The louvres take the form of lightweight aluminium blades fixed vertically and horizontally to the building's façade
- active chilled beam system implemented for air-conditioning
- grey water treatment system provided on-site. Quality of the water produced is class A
- tinted double glazed windows
- programmable lighting with motion sensors and T5 fluorescent lamps
- floor-by-floor zoning and thermal zoning of air handling
- glass lifts installed to maximise natural light penetrating into office spaces
- 20 per cent of all aggregate used in concrete is recycled aggregate and 15 per cent of cement used for precast concrete replaced with industrial waste product



## CONSERVATORY ON HINDMARSH SQUARE SUBMITTED BY HINES PROPERTY

The 19-storey mixed use tower in Adelaide includes 4,000 sqm of office accommodation, a residential tower comprising 53 one-, two- and three-bedroom apartments, groundfloor retail and car parking.

### INITIATIVES:

- air-conditioning systems and facades designed to exploit opportunities for free cooling during mild but sunny conditions
- commercial floor air-conditioning system incorporates a high efficiency magnetic bearing chiller with low energy input
- low-E glass with shading to the north façade
- photovoltaic cells located in three areas of the building
- combined heat and power 65 kW micro turbine installed
- heat recovery ventilation for the pool area
- rainwater collected from the building's roof and balcony surfaces
- 4A and 5A rated tapware, toilets and shower heads
- minimum 25 per cent of building materials contain aggregate
- ceiling tiles have a recycled content (mineral wool and cellulose) and can be recycled in the future



## MACQUARIE BANK BUILDING SUBMITTED BY BROOKFIELD MULTIPLEX

The \$350 million project comprises 33,000 sqm over 11-storeys. The design incorporates an external diagrid which acts as the primary support for the structure and minimises internal columns. The building was designed by Fitzpatrick + Partners. It achieves a 6 star Green Star rating and was designed to achieve a 4.5 star ABGR.

### INITIATIVES:

- improved public access to Sydney harbour by redeveloping existing streets
- utilises 100 per cent outside air with no recirculated component
- fully passive chilled beam cooling with harbour heat rejection
- lighting design nearly halved BCA benchmark of 10 watts per sqm lighting power density – achieves 5.2 watts per sqm
- perforated metal ceiling allows air to transfer passively from the space to chilled beams
- over 80 per cent of construction waste recycled
- laser acrylic LED diffusion panels for the entry canopy light box
- formaldehyde minimised in all engineered wood products
- potable water consumption reduced by 90 per cent
- 29 per cent of concrete used granulated blast furnace slag and flyash to replace cementitious material
- recycled timber utilised on the seventh level terrace and in the main lobby areas
- 60 per cent of PVC content reduced through replacement with alternative materials



## J. BOAG AND SON BREW HOUSE SUBMITTED BY BIRRELLI ARCHITECTS



The brew house is located in the heritage industrial precinct of the J. Boag & Son Brewery in Launceston. The building has been designed to reduce its environmental impact through material selection, natural cooling and ventilation systems, natural light and the re-use of existing buildings. The building houses process-plant for brewing using best practice for water recycling, heat and energy recovery and minimises waste discharged.

### INITIATIVES:

- 8m high glazed wall of double-skin coloured glass allows even light levels and reduces the need for artificial lighting
- fully insulated building envelope
- sensors driving automated operable windows regulating air movement/ventilation and controlled temperature via thermal solar chimneys
- overall water consumption reduced from 6 litres per litre of production to 3 litres per litre of production
- gains in water volume derived from the collection of heat and water from steam sources within the process. These were previously discharged to waste or only partly recycled
- in total energy used per litre of production 34 per cent of the existing process
- dust on-site reduced and clean dust used in the brewing process
- insulated sandwich panels for wall construction
- all building construction waste separated for recycling waste streams

## SA WATER – VS1 SUBMITTED BY HASSELL

VS1, located in Adelaide's CBD, is the first building in South Australia to achieve a 6 star Green Star certified GBCA design rating. The A grade building was designed from the inside out around a central atrium and stair, providing abundant natural light and views. Hassell's approach was to minimise the long-term environmental impact of resources, materials, construction and operation, whilst maximising indoor environment quality.

### INITIATIVES:

- air-conditioning cooling towers designed to use 100 per cent non-potable water. The pipeline returns non-potable water from the treatment facility to the Adelaide CBD
- main façade faces west. A fritted second façade provides passive solar control. Other building faces have a combination

- of spandrel panels and vertical fins to reduce the solar load
- perimeter automated blinds connected to the BMS assist with thermal and visual comfort
- lightweight ethylene tetra fluoro ethylene (ETFE) roof with high transmission characteristics covers the full height atrium to allow natural light into the heart of the building. Glare is controlled through the inclusion of a fritted pattern on the top layer of cushion
- underfloor air ventilation system
- gas combined heat and power unit on the roof connected to an absorption chiller and hot water system
- recycling of over 90 per cent of construction and demolition waste
- 20 per cent of Portland cement replaced with flyash

