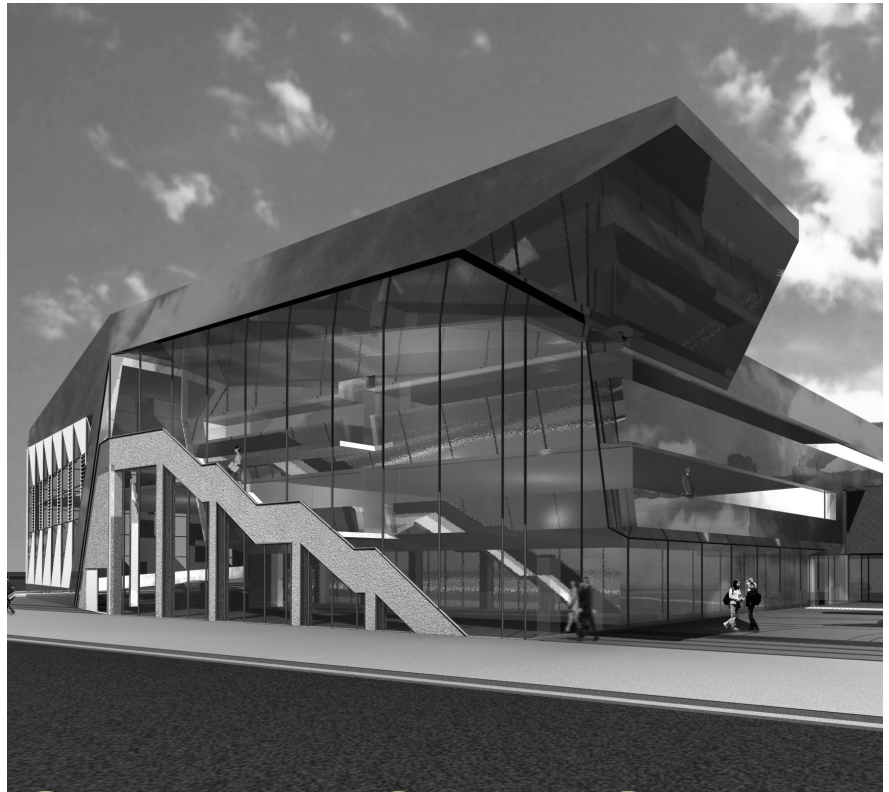


5 star rating



*green building council australia



AUTOMOTIVE CENTRE OF EXCELLENCE

GREEN BUILDING COUNCIL AUSTRALIA OVERVIEW

The Green Building Council of Australia's mission is to define and develop a sustainable property industry in Australia and to drive the adoption of green building practices through market-based solutions.

The Council's objective is to promote sustainable development and the transition of the property industry to implementing green building programs, technologies, design practice and operations. To do this, it advances and promotes the creation of a green building rating tool, economic incentives, government initiatives and programs, new technologies and industry knowledge.

CONTACT US

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GENERAL PROJECT DESCRIPTION

The Automotive Centre of Excellence (ACE) will be the first dedicated automotive training facility in the southern hemisphere. The building itself is also unique in the way innovative sustainable design features have been integrated. In an Australian first, BATISO active mass cooling and night sky cooling systems have been combined in a single building.

These and other design measures such as chilled beams, thermal chimneys and natural ventilation mean that the building's operational energy demand for ventilation and air conditioning will be reduced by 68%.

As a publicly owned TAFE institute, value for money and environmental commitment is high on Kangan Batman TAFE's agenda (www.kangan.edu.au/ace/environment). The challenge for the new ACE building was to produce a landmark structure that delivers excellence in learning space, sustainability measures, occupancy comfort and within budget constraints.

AUTOMOTIVE CENTRE OF EXCELLENCE

Address:
Automotive Centre of Excellence, Batman Drive, Docklands VIC

Owner:
Kangan Batman TAFE

Architect:
Lyons

Project Manager:
Carson Group

Services Consultant:
Umow Lai & Associates

Quantity Surveyors:
Wilde & Woollard

MANAGEMENT

- Environmental Management Plan
- Environmental Management System
- 60% of construction waste to be recycled
- KBT staff undertaken Green Building Council training
- Centrally located recycling facilities
- Independent commissioning agent to ensure optimum building performance
- 12 month commissioning building tuning period to ensure construction meets design intent

INDOOR ENVIRONMENT QUALITY

- Skylights
- Low internal noise levels
- External shading
- Active chilled beams for cooling
- Thermal chimneys for ventilation
- 75% of office space within 8m of external windows
- Thermal modelling to ensure minimal temperature fluctuations
- 50% improvement on outside air flow rates
- Floor slab heating
- Carbon dioxide monitoring and control
- Enhanced daylight levels to 60% of the net lettable area
- Use of low VOC materials for paints, carpets, adhesives and sealants
- Use of low emission formaldehyde materials for composite wood products

ENERGY

- Passive chilled water generation (night sky cooling)
- Low energy thermal comfort systems (BATISO)
- Energy savings exceeding 5 star ABGR model requirements
- 68% reduction in energy demand for ventilation and air-conditioning
- Greenhouse gas savings equivalent to saving 65 trees (44 tonnes of CO2 per annum)
- 500m shading reveals on north façade assist with thermal load reduction
- Use of East atrium as a thermal buffer space

- Light sensors and automatic dimming on lighting system
- Energy efficient T5 lighting units
- Carpark carbon monoxide monitoring and control
- Energy sub-metering and trend-logging
- Peak energy demand reduction through chilled water storage

TRANSPORT

- Secure bicycle facilities, showers
- Provision of small car parking spaces
- Close to public transport

WATER

- 47% reduction in water consumption (based on average 3A consumption rating)
- Waterless urinals
- 130,000 litre capacity rainwater collection storage and reticulation system for toilet flushing, irrigation, car washing, some paint-shop needs and night cooling system
- 3/6 dual flush toilets
- 5A rated shower heads
- Water efficient cooling towers

MATERIALS

- Sustainably sourced timber
- PVC minimisation
- Office waste recycling facilities

LAND USE AND ECOLOGY

- Intensive remediation of soil

EMISSIONS

- 100% of refrigerants have an Ozone Depletion Potential of zero

INNOVATION

- BATISO Slab Cooling
- Night Sky Cooling

OVERALL GREEN STAR BUILDING PERFORMANCE

