Faculty of Engineering and IT Building (CB11)

SUSTAINABLE DESIGN FEATURES

- Targeting 5 Star Green Star Design & As-Built Educationv1 ratings Certified by the Green Building Council of Australia.
- “Binary screen” provides shading & glare control.
- Adjustable blinds further minimise glare.
- High performance glazing; insulated double-glazed curtain wall with low emissivity coating.
- Natural daylighting provided through “Crevasse” atrium, which also facilitates air extraction via the stack-effect.
- Highly visible internal stairs reduce lift energy use & function as “bump space”.
- Energy efficient HVAC, including displacement ventilation, with sensors, timers & controls.
- Heated & chilled water supplied from CB01 Central Thermal Plant.
- Renewable / low carbon micro-grid powered by roof-top solar panels (photovoltaics), wind turbine, hydrogen fuel cell, parabolic trough solar concentrators linked to an organic rankine cycle turbine powers 3 electric car recharge points, the 2 UTS sky signs, Dean’s unit & some labs.
- Energy efficient LED & T5 lighting, zoning & controls.
- LED “gill” lighting.
- Energy & water sub-metering connected to campus-wide Energy Management System.
- The building is a “living lab” with research students able to access data from ~2,000 meters & sensors monitoring indoor air quality, carbon dioxide levels, Volatile Organic Compounds, people counting, concrete ion erosion, building structural movement etc.
- Real-time sustainability performance data linked digital signage.
- Water efficient fixtures e.g. toilets, hand basin taps, waterless urinals.
- Rainwater capture, treatment & re-use for supplying the building’s toilets & irrigating the Dean’s Wintergarden, Arcade green wall & trees.
**SUSTAINABLE DESIGN FEATURES**

- **Fire system test & maintenance drain down water capture, treatment & re-use.**
- **Phosphorus recovery urine diversion technology** (Institute for Sustainable Futures research).
- **Improved Indoor Environment Quality** through selection of materials, furniture, flooring, paints, adhesives & sealants & carpet with zero or low VOCs & use of composite woods products with zero or low formaldehyde content.
- **Low environmental impact flooring, joinery & loose furniture.**
- **Timber re-used, recycled or from certified sustainable sources.**
- **Steel sourced from environmentally responsible steel manufacturers.**
- **Avoidance of Polyvinyl Chloride products where possible.**
- **98% construction waste recycling** achieved.
- **End Of Trip facilities** in shared basement - 288 secure undercover bicycle spaces, 29 showers, 260 lockers & change facilities.

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**PROJECT TEAM**

**OWNER**
University of Technology, Sydney

**PROJECT MANAGER + ARCHITECT**
Denton Corker Marshall

**ESD / GREEN STAR + STRUCTURAL + CIVIL**
Aurecon

**MECHANICAL + ELECTRICAL**
Waterman AHW

**HYDRAULICS + FIRE**
Arup

**CONTRACTOR**
Lend Lease

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**FAST FACTS**

**SIZE**
- Gross Floor Area: 43,500m²
- Useable Floor Area: 22,050m²
- 18 floors
- 4 basement levels + 14 floors

**COST**
- Construction cost: $205M
- Construction cost per m²: $4,820

**DATES**
- Start date: January 2009
- Early works completion: February 2012
- Main works completion: May 2014
- Official opening: 12th June 2014