AN INTEGRATED APPROACH TO INCREASING ASSET VALUE

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PC Thomas
pctomas@teamcatalyst.com.au
+61 417 405 478

GS Rao
gsrao@teamcatalyst.com.au
+61 417 405 475

Team Catalyst
‘Driving Sustainability through Teamwork’
we help buildings to

- Increase asset value by
- using a integrated approach to
- reduce greenhouse emissions
- and improve occupant health & comfort
CASE STUDY – MID TIER BUILDING

Team Catalyst

"Driving Sustainability through Teamwork"
• Located in Wollongong CBD
• G+5 office building, 10,000m² NLA, 25+ years old
• Major tenants Federal and State government agencies
• Base building performance 2.5 NABERS Energy star before refurbishment
PROJECT TEAM

OWNER: Folkestone Funds Management
ENGINEERING: Team Catalyst
CONTRACTOR: FDC Mechanical
CONTROLS: EC Controls
ENERGY MANAGER: Big Switch
$2.5 million – CAPEX spend for end-of-life HVAC plant replacement

$4.0 million – estimated increase in asset value

Asset value increase estimated from:
- Capitalized value of energy savings
- Increased WALE
- Compression yield
- Reduced maintenance
- Certified NABERS Energy 5 stars
HEADLINE OUTCOMES – GHG EMISSIONS

Folkestone Funds Management Limited achieved 2.5 star NABERS Energy Base Building rating for
Corporate Square Wollongong
43 Burelli Street
WOLLONGONG NSW 2500

NABERS is a national initiative managed by the New South Wales Government - Office of Environment and Heritage on behalf of the Commonwealth, State and Territory Governments. This NABERS Rating is based on 12 months of operational energy use. More stars indicate better energy performance and lower emissions of greenhouse gases.

www.nabers.gov.au

Rating valid until October 2014

Folkestone Funds Management Limited achieved 5 star NABERS Energy Base Building rating for
Corporate Square Wollongong
43 Burelli Street
WOLLONGONG NSW 2500

NABERS is a national initiative managed by the New South Wales Government - Office of Environment and Heritage on behalf of the Commonwealth, State and Territory Governments. This NABERS Rating is based on 12 months of operational energy use. More stars indicate better energy performance and lower emissions of greenhouse gases.

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Rating valid until April 2017
HEADLINE OUTCOMES – ENERGY EFFICIENCY

12 month comparison of utility bills, Pre and Post HVAC upgrade

OCT2013 to SEP2014: 1,319,590 kWh
OCT2014 to SEP2015: 709,995 kWh

Energy saving = 46.2%

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ENERGY/DEMAND PRE & POST UPGRADE

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<thead>
<tr>
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<th>kWh (electricity)</th>
<th>kVA (demand)</th>
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<td>&quot;2012/2014&quot;</td>
<td>NOV 54% 33%</td>
<td>DEC 56% 42%</td>
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% reduction

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## INTEGRATED ANALYSIS

**Team Catalyst**

*‘Driving Sustainability through Teamwork’*

### Criteria | Value | Comment
--- | --- | ---
Ambient Design | Summer DBT 29.6C CWB 22.6C Winter DBT 5.9C |  
Internal Design Temperatures | Cooling setpoint 24C Heating setpoint 20C | clear functional control strategy description for BMS contractor
Internal loads | Lighting Power Density (LPD) – 9 W/m\(^2\) (BCA2011) Equipment Power Density (EPD) – 11 W/m\(^2\) Occupant load – 10 m\(^2\)/person |  
Minimum outside air | 7.5 l/s/person | filtration requirement to meet relevant Australian standards
Psychrometric Chart for Wollongong at 101.3 kPa

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STANDARD AHUs

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WITH ENGINEERING SMARTS!

Team Catalyst
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thank you