

133 Castlereagh St –
Existing buildings

Davina Rooney - Sustainability Manager
Alister Wishart - Facility Manager



Working with Existing Buildings

The purpose of case study:

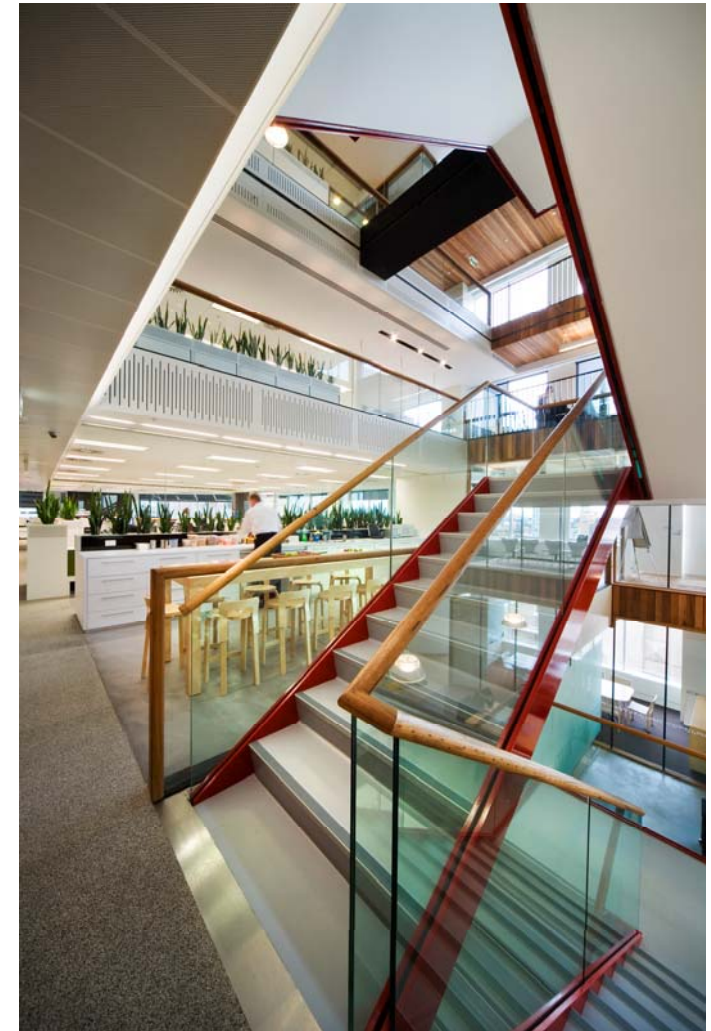
- Tenancy Initiatives

- Green Star rating
- ABGR Tenancy commitment

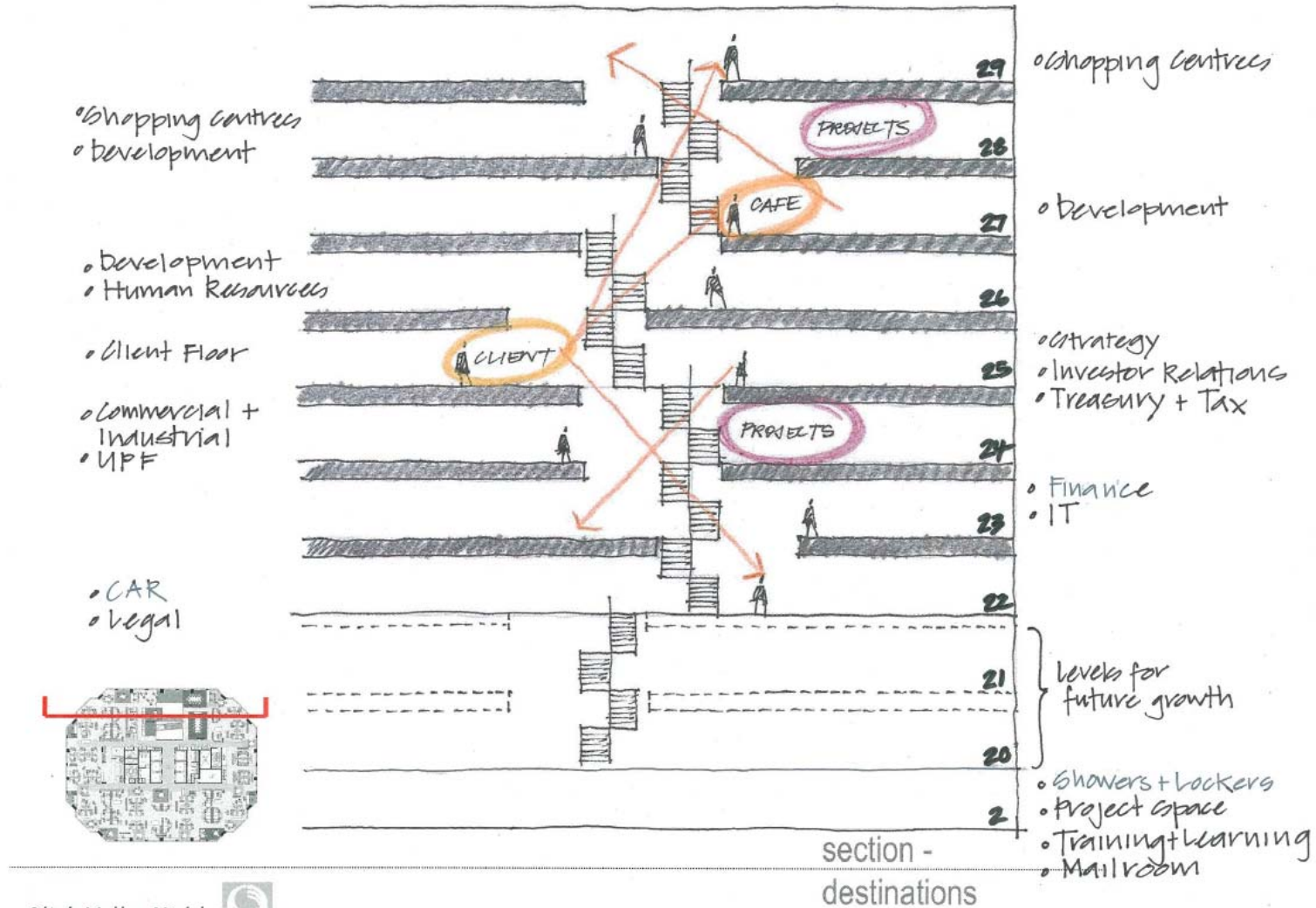
- Base Building

- ABGR Rating
- NABERS improvement

- Review challenges and opportunities



Tenancy : Process



Bligh Voller Nield



Tenancy : Sustainability

- Priority to improve ecological footprint & Indoor Environment Quality
- Stretch Green Star and 5 star ABGR targets for tenancy
- Key initiatives:
 - 200% increase in fresh air
 - Lighting controls to lower lux levels.
 - Recycled materials, low VOC products & plants
- Lighting
 - T5 fluorescent lighting with direct indirect lighting
 - Lighting systems that respond to user needs – floor and meeting rooms



Social Initiatives

- Work stations donated to Mission Australia and Work Ventures
- Employee auction raised \$18,000 to be donated to charities
- Fairfield High School Art Wall commission
- Environmentally appropriate Childcare Centre on Level 2



An Inspiration

"I like white flowers... love them... 'cause they're beautiful... you can pick them and give them to your Mum... she puts it in her ear and she looks beautiful"

Ben M, KU Corrimal East Pre-school

Tenancy Rating Summary



Tenant Lights



Computers



Photocopier

(all tenancy power)



**Meeting room
air conditioning**

(all additional tenant air-
conditioning)



**Tenant
Computer
server rooms**



**Anything other
power which base
building doesn't
supply**

Change Management

Stockhome.
The capital of Stockland.

Sustainability at Stockhome

Our new head office is designed to embody the principles of Change Management through providing an engaging and healthy workplace for our people, demonstrating improved environmental performance.

What is Green Star?

The nine environmental impact categories are:

- Management
- Indoor Environmental Quality
- Energy
- Transport
- Water
- Materials
- Land Use and Ecology
- Emissions
- Innovation



info Visit the Stockhome intranet or email: stockhome@stockland.com.au

Key Facts

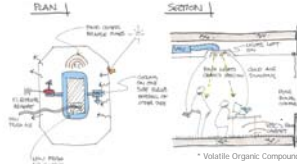
- Green Star is an environmental management system to assess the performance of a building against nine categories of environmental criteria.
- The Australian Building Greenhouse Rating (ABGR) scheme is a national standard for measuring a building's greenhouse performance.
- The new office is striving for an outstanding ABGR rating.
- Key ways we are striving for 100% improvement in energy efficiency, energy efficient fittings and fixtures.
- Trigereneration system cooling is being installed, reducing CO₂ by 20%.
- The base building is striving for its ABGR and Green Star minimum of one star.

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The capital of Stockland.

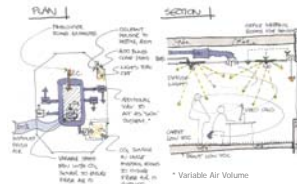
Air and Lights at Stockhome

Stockhome has been designed to provide increased fresh air, better lighting, improved air conditioning and air quality and a more energy efficient environment.

> Original air & lights fit-out at 133 Castlereagh Street



> Improved air & lights design for Stockhome



Welcome to our sustainable workplace

Take in a deep breath

- You're breathing in air 200% fresher than in Piccadilly office spaces 6 months ago.
- There's more oxygen, with at least one plant per employee and CO₂ monitors in meeting rooms to automatically adjust ventilation.
- Less of a headache? Notice that there is no new carpet or new paint smells. We've minimised your exposure to toxic volatile organic compounds (VOCs) through careful selection of paints, furniture and carpet.

Feeling comfortable?

- We've improved the zoning of air conditioning to create a more even temperature experience across the floorplate – from the windows to the building core.
- We asked our Subbies to help select our office chairs. Sit back, relax and adjust your chair for comfortable working. By the way, it's almost entirely recyclable.

Stockhome.
The capital of Stockland.

Easy on the eyes

- Natural daylight has been maximised while minimising glare.
- More even lighting (less shadow) on work surfaces through the use of energy efficient T5 triphosphor fluorescent lighting.
- Workstations and meeting rooms have been laid out to make the best of our views, which also helps to reduce eyestrain.

Making use of recycled and innovative products

- Take a look at the recycled Blackbutt timber lining the lift lobby and core on each floor. The pattern of this timber reveals a sense of past buildings.
- The plasterboard for our meeting rooms is made from recycled content.



Reducing our energy consumption

- Light control systems that respond to your needs, including lighting in meeting rooms automatically switching off when not in use.
- We all now have flat screen monitors taking up less space and using less energy.
- We are now using far fewer printers – now known as MFDs (multi function devices). Thanks to our Stockhome Subbies for helping us reduce our printers over the past months.
- With electrical sub-metering we can quickly pinpoint areas of high and unusual energy use patterns to help save energy and costs.

Easier to catch up with people

- It's now easier to collaborate – with more meeting rooms and our café lounge. Our atrium void/staircase and our open plan work areas will make it easier to gain a sense of what's happening at Stockland.

Reducing our water consumption

- Have you ever thought about the water that gets wasted when fire equipment is tested? In our head office building water is recaptured and reused when we test our fire sprinklers.
- Our water meters are linked to our Building Management System we can quickly detect leaks to prevent wasting water.
- We have water efficient fittings in our bathrooms and showers.

How are we measuring our performance?

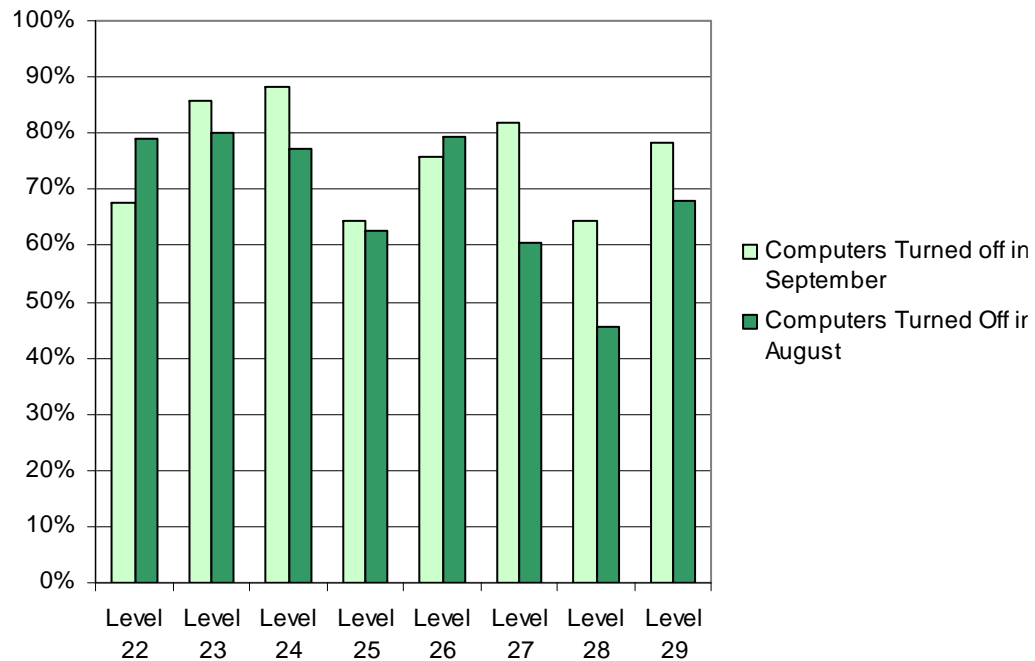
- Our new workspace has been designed and constructed to achieve high sustainability ratings including ABGR (Australian Building Greenhouse Rating) and the Green Star Interiors tools.



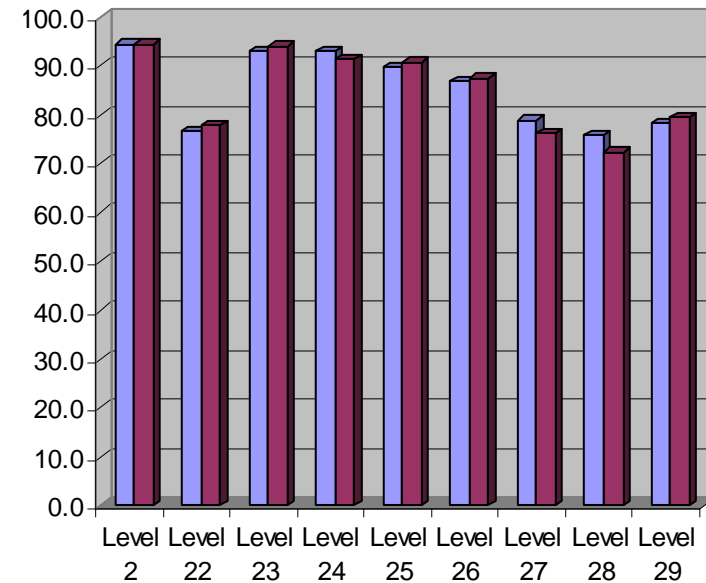
On-going energy usage

Stockhome

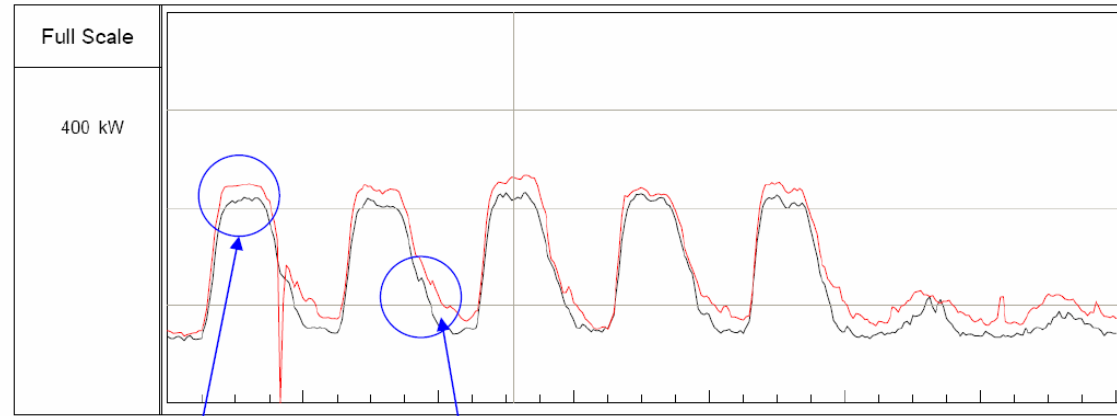
Sustainability Committee



% of PC's switched off each night



On-going energy usage and Lux Levels



Lights

Photocopier



Façade Glass Replacement Near Atrium



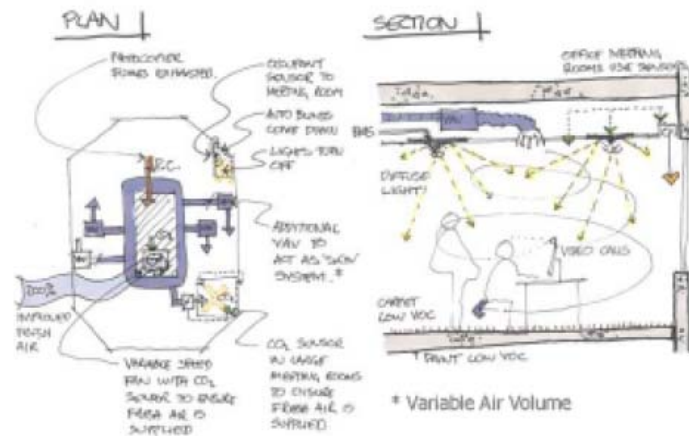
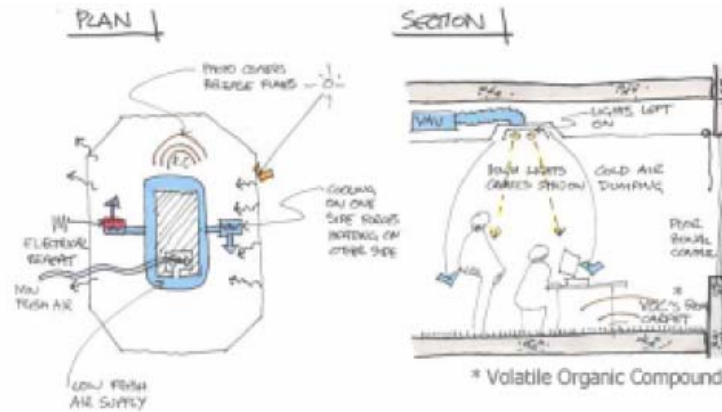
Clearer performance glass to improve daylight

Daylight redirection device being trialed.

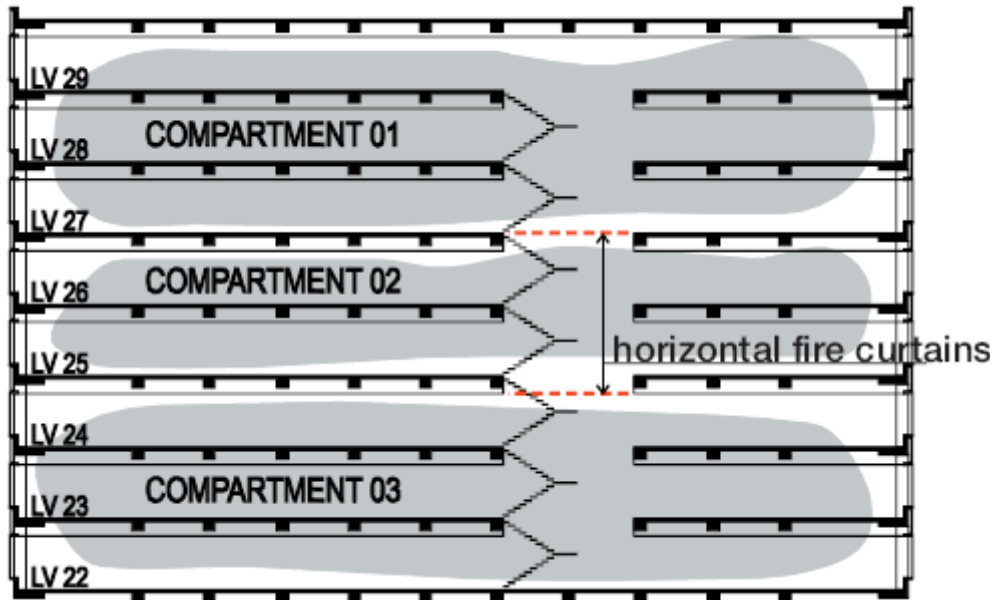
Environmentally preferable workstations – Herman Miller

Good environmental choice carpet - Interface

Working with existing buildings



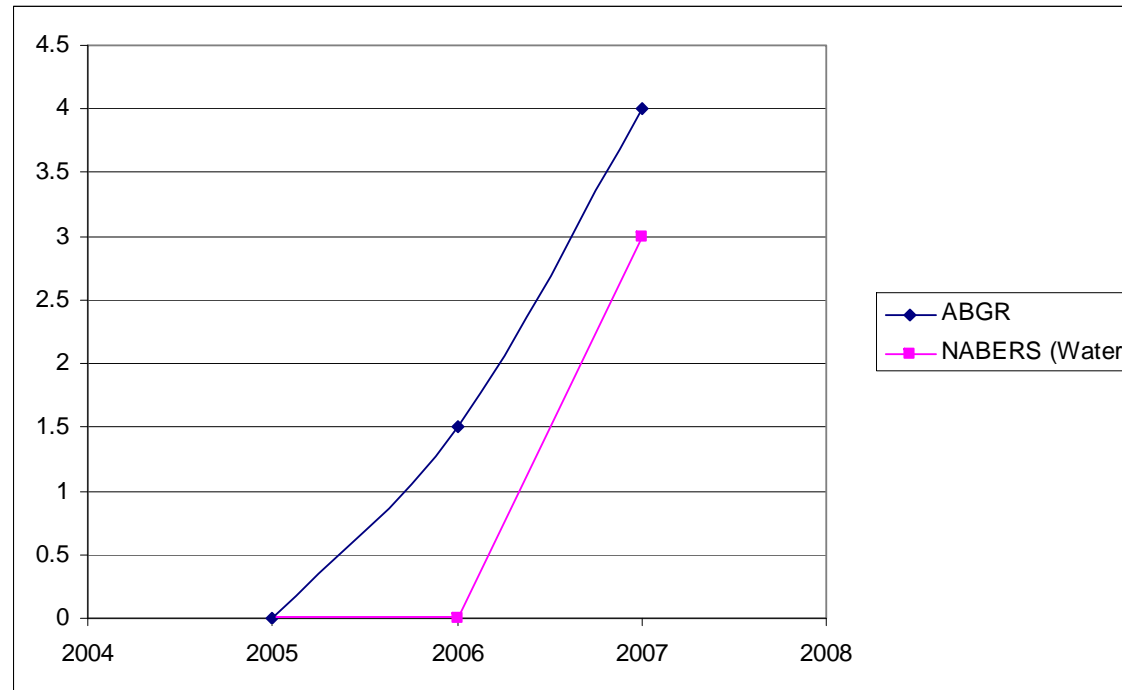
Fire Curtains



Base Building



Building Over Time



*2005/ 6 are estimate ratings

Initiatives

Key initiatives:

Monitoring and separating retail, car parks

Variable Speed Drives – Fans

Upgrades of tenancies

Floating Set-point Trial : Stockland floors

Optimised Start-up

Basics :

- Removing 'decorative' night lights

- Base board reviews

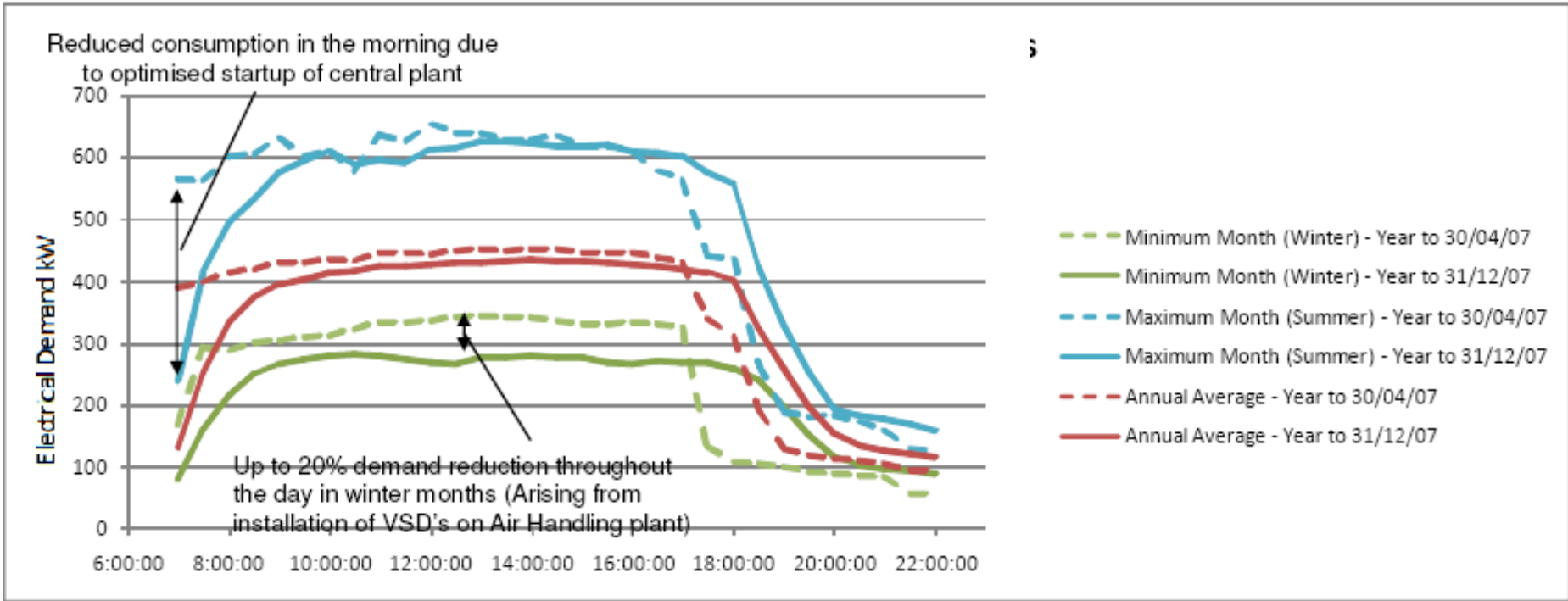
Future Trials: Balltech

Condensate Capture

Future Technology : Trigeneration

Green Lease

Graphically

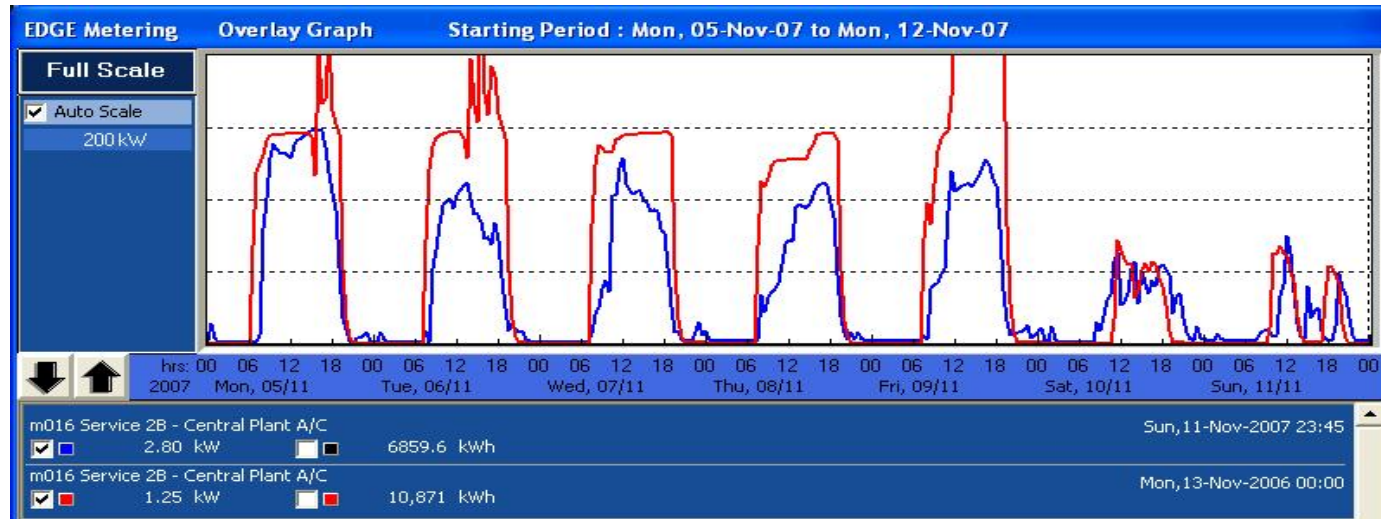


Green Lease

Environmental Initiative	KPI Lessor	KPI Lessee
Energy	<ul style="list-style-type: none">• Energy Management Plan• 2007 ABGR 2.5• 2008 ABGR 3.5• Energy efficient lighting• Provide sub-metering• Energy monitoring• BMS upgrade• Information sharing	<ul style="list-style-type: none">• Energy Management Plan• 5 Star Tenancy ABGR• Join 3CBDs• Energy monitoring• Design for efficiency : lighting sensors, submeters, efficient printers

Plus: Water, Waste, Cleaning Products, Procurement, Green Star

Central Plant Air-conditioning



HVAC

Total savings:

\$16,680 (Year)

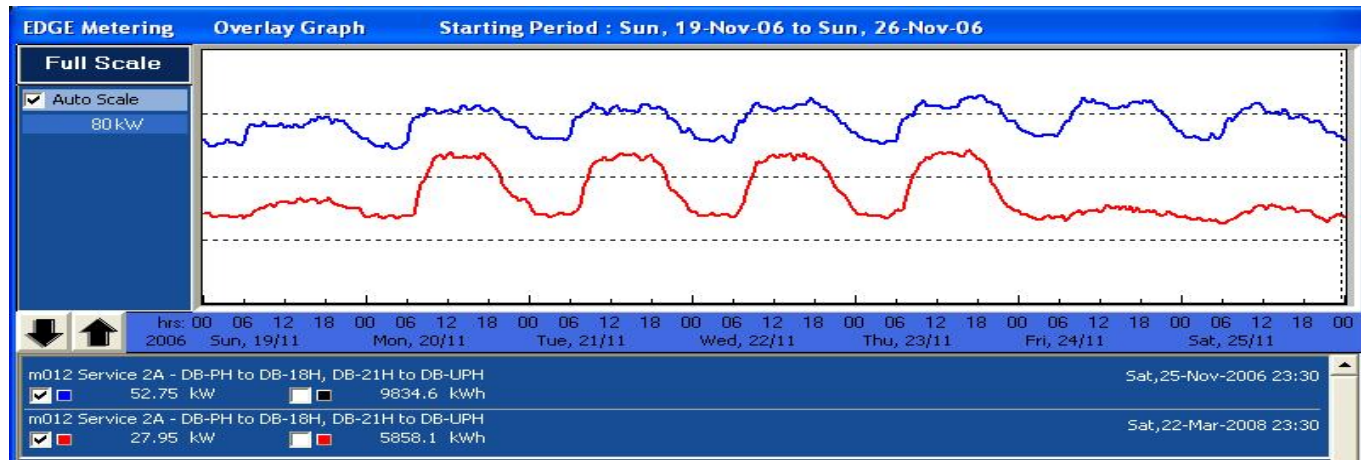
Energy savings:

208,642 kWh

Total reduction in emissions:

211,145 kg/CO₂-e

Light and Power



Light & Power

Total savings:

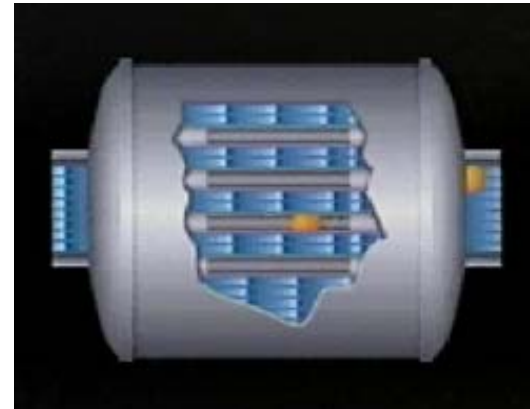
\$10,500 (Year)

Energy savings:

131,250kWh

Total reduction in emissions:

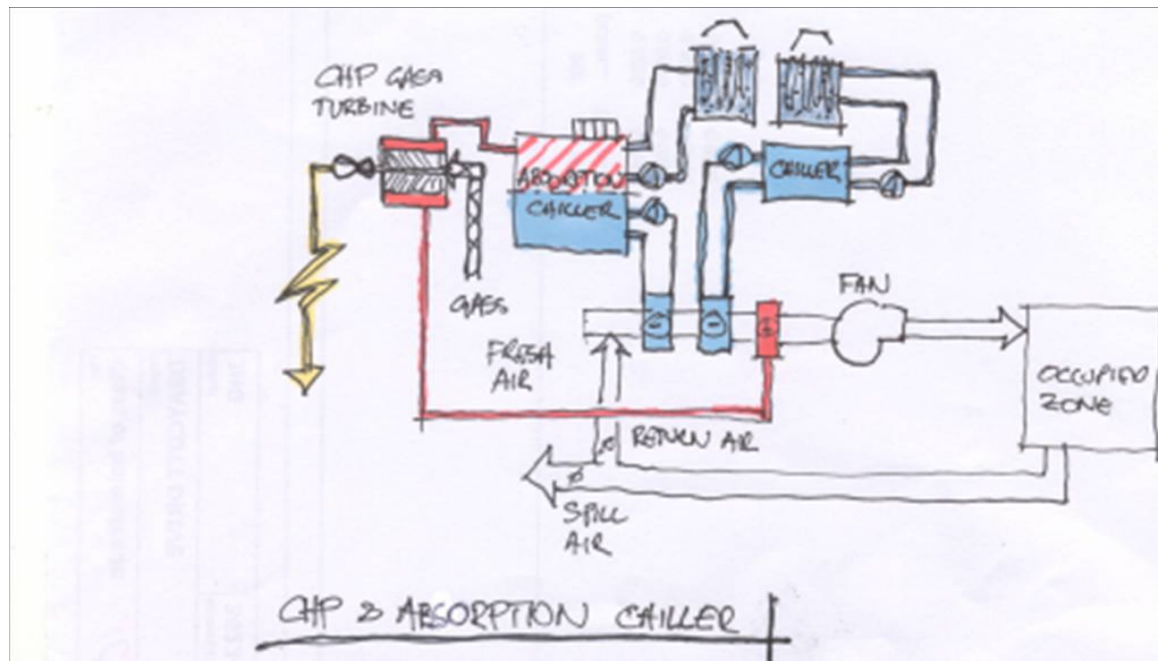
132,825 kg/CO₂-e



Balltech is a system to improve the **efficiency** of chillers by **cleaning the condenser tubes with foam balls**.

Typically condenser tubes in water cooled chillers have hard deposits such as scale, which increases the friction induced, and thence **reduces overall chiller efficiency**.

Trigeneration



Other Initiatives



Base Building diverts average of 85% waste from landfill

Initiatives to encourage other carbon efficiency with **bicycle racks**, new showers, lockers.

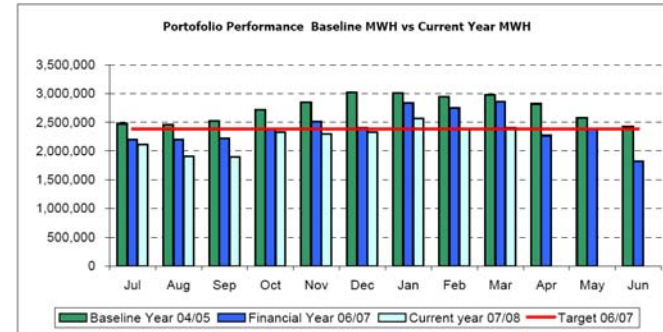
Water efficiency – **waterless urinals**,

Environmentally **optimised materials** in tenancy. **Two plants per person** in tenancy

Relating Building To Portfolio

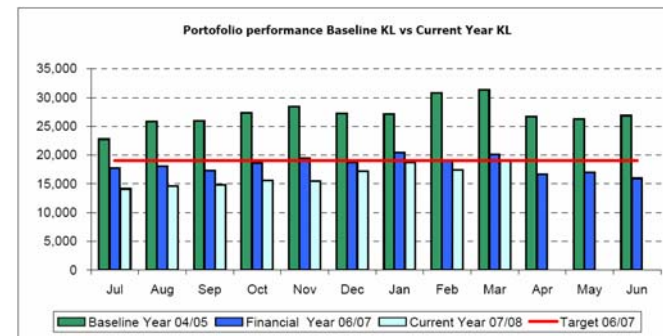
Energy

- 16% reduction by July 2008
- Currently tracking at 14.2%
- Stretch target 24% by July 2008



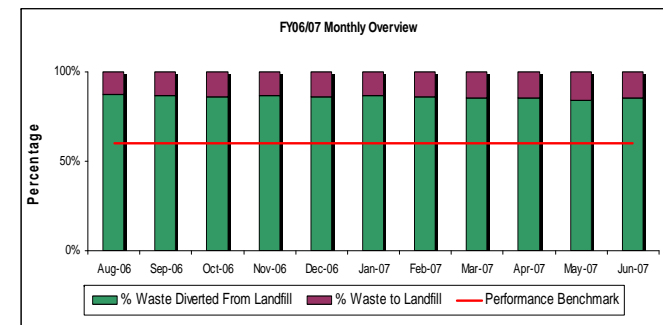
Water

- 50% reduction by July 2008
- Currently tracking at 41%
- Re-set target to 50% July 2008



Waste

- 70% reduction by June 2008
- Currently tracking at 85.9% NSW
- Working with parts of the portfolio on reporting.



Onto the tour...

Stockland Tenancy
Level 16 – refurbished floor
Plant room
Drink at Level 25

